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Achieving Sustainability of the Springfield Innovation Center

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`Achieving Sustainability of the Springfield Innovation Center

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Abstract

Downtown Springfield has shown interest in connecting entrepreneurs. The objective of this project was to help the Springfield Innovation Center maintain financial sustainability, to allow innovation to thrive. After extensive research using other innovation centers as models, and speaking with multiple experienced professionals, our team concluded that sustainability is most easily attained through support from partner companies and customers. Our recommendations focus on four main objectives: (1) effectively utilize space, (2) introduce a test kitchen, (3) expand marketing efforts, and (4) focus on networking.

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Executive Summary

Downtown Springfield currently is in need of an ecosystem to connect existing and future entrepreneurs and startup businesses. DevelopSpringfield has established the Springfield Innovation Center ("SIC") to remedy this issue. The objective of this WPI student research project was to develop recommended strategies for DevelopSpringfield and other stakeholders to maintain the long-term sustainability of the Springfield Innovation Center.

We divided the student research project into two phases. The first phase consisted of the work conducted by the group authoring this paper. We performed extensive research, reached out to professionals, and communicated with our sponsor (Mr. Jay Minkarah, CEO of DevelopSpringfield). We developed a set of strategic recommendations that will be handed off to a second group of students in a subsequent academic term. This group will focus more on the operational aspect of the SIC project.

In the second phase of this project, the group of WPI students who compose the D-term team will perform deeper and more focused analysis and research on the specific strategies mentioned to produce a refined operational strategy.

The Springfield Innovation Center is located on Bridge Street in downtown Springfield, across from Center Square. The SIC will house Valley Venture Mentors ("VVM"), a prominent business accelerator in the Pioneer Valley area; a test kitchen; a stage area; and multiple office spaces. We evaluated 900 square feet of readily available space, 3,000 square feet of space available in approximately two years, the exterior of the building, and a prep kitchen and café included in the SIC. After extensive research and several meetings with Mr. Minkarah, our advisor Professor Kevin Sweeney, and outside professionals, we developed a set of eight recommendations. Each recommendation represents a general concern or opportunity, with multiple proposed solutions.

1. Utilize the Unoccupied 900 Square Feet on the Third Floor of the SIC:

    - Convert this space into a rentable generic office for a long-term tenant.
    - Convert into a programmable, multi-functional collaboration space to cater to tenants and outside guests.

2. Expand the Marketing Strategies of the SIC:

    - Paint a mural on the side and/or back walls of the building.
    - Establish an SIC-specific website and social media presence.
    - Increase the branding through a logo, and by advertising in key locations such as the Springfield Union Station and the new MGM casino.

3. Promote Internal Synergy Within the SIC:

- Discuss with Valley Venture Mentors about the possibility of opening up their presentation space in the SIC for DevelopSpringfield to use. Doing so could help bring in additional revenue through renting the spaces.

4. Utilize the Test Kitchen and Café:

- Allow entrepreneurial chefs to take charge of the kitchen for short periods of time, thereby gaining networking opportunities, and garnering the attention of residents of the SIC and of the community.
- Create a "special of the day" offered by entrepreneurial chefs, which would allow chefs to prototype their recipes and gain feedback on their food.

5. Review Operational Sustainability:

- Consider increasing rent as a primary source of revenue.
- Review revenue projections without heavily relying on future grant funding estimates.
- Implement further renewable energy sources.

6. Expand the Professional Network of the SIC:

- Partner with organizations to reduce various costs and create networks.
- Expand sponsorships with surrounding companies and organizations that would possibly put their name on the SIC.

7. Utilize the Currently Occupied 3,000 Square Feet of Space:

- Establish a makerspace, which could include computers equipped with programs such as MATLAB and SolidWorks, as well as 3D printers.
- Establish a co-working space.
- Establish a specialized office space for long-term tenants.
- Consider the option of a wet lab. Since it would involve high capital investments and high operating costs, further in-depth analysis is required.

8. Help Establish an "Innovation District" Around the SIC:

- Foster a strong relationship with the community.
- Promote the occupancy for the 20+ empty surrounding buildings.
- Entice other companies to move into or near the SIC.

Based on our analysis of the above, we have consolidated our recommendations into the following tangible projects that can be undertaken by the next team:

1. Optimization of the Open Space in the SIC:

- Determine a course of action for the unoccupied 900 square feet on the third floor.
    - Cost-benefit analyses of the most optimal value to rent per square foot, deeper research into logistics of multi-functional collaboration spaces.
- Determine a course of action for the 3,000 square feet to be potentially acquired from its current owners.
    - Further analyze makerspaces, co-working spaces, and wet labs to determine which one, or a combination thereof, would benefit the SIC the most.

2. Analyze the Logistics for the Test Kitchen:

- Interview entrepreneur chefs, and determine demand.
- Investigate kitchen incubators to identify aspects that would function well in the SIC.

3. Perform a Marketing Analysis:

- Conduct further research into the concept of creating a mural.
    - Identify artists or organizations who would be willing to paint the mural.
    - Identify what types of artwork should be incorporated.
    - Determine cost.
- Research effective website and social media marketing strategies.

4. Expand the SIC's Networking Potential:

- Identify companies, universities, or other organizations that the SIC could partner with, or be sponsored by, in the future.
- Help build a local network around the SIC to foster a sense of community.

Introduction

The Springfield Innovation Center ("SIC") project consists of two successive teams. Our team was tasked with developing a set of strategic recommendations to aid in the generation of revenue, and to better establish a long-term sustainability plan for the SIC. These recommendations will be handed off to a second WPI student project team, who will provide a deeper examination of our proposals, and develop a final set of operational plans for the SIC and each of the recommended strategies or initiatives. Our recommendations identify the most crucial aspects the SIC should address and the most important points for the next team to consider.

Background

The SIC building itself is owned by DevelopSpringfield, a non-profit corporation working "to advance development and redevelopment projects, to stimulate and support economic growth, and to expedite the revitalization process within the City of Springfield" ("About Us," 2017). The SIC is DevelopSpringfield's most recent project, and consists of two conjoined buildings recently acquired by the company. The Springfield Innovation Center strives to "support new business start-ups and help foster a culture of entrepreneurship within the City" ("Projects," n.d.).

Much of the building will be used to house a business accelerator run by Valley Venture Mentors ("VVM"). VVM will occupy 5,632 square feet on the first floor that includes a meeting space and an auditorium, and 3,672 square feet on the second floor where they will house their accelerator program and co-working space ("Projects," n.d.). The third floor will mainly host other companies and entrepreneurs, and leave some room for other functions if necessary ("Projects," n.d.).

A new café will occupy the first floor space once previously occupied by the Emerald Café, with a kitchen space behind it. Mr. Jay Minkarah, president and CEO of DevelopSpringfield, as well as our project sponsor, stated the kitchen will "be open to owners of food trucks and people developing food businesses who need commercial kitchens for meal prep or to develop restaurant concepts" (Kinney, 2015).

Problem Statement

The intent of this project was to develop an economically sustainable plan for the SIC in the years following the expiration of the grants that currently sustain the project. The center is currently under construction funded by grants negotiated by DevelopSpringfield, but over time the long-term sustainability of the center will need to depend on revenue generated by the center itself. Our task was to develop a set of recommendations to lay out a strategy for this revenue stream.

Recommendations

Having spent the past term looking over the situation and conducting research with this problem statement in mind, we decided on eight recommendations. Based on these recommendations, we identified four project ideas for the next student project team to address. These projects are included in the "Handoff Plan." The eight recommendations are as follows:

1. Utilize the unoccupied 900 square feet on the third floor of the SIC
2. Expand the marketing strategies of the SIC
3. Promote internal synergy within the SIC
4. Utilize the test kitchen and café
5. Review operational sustainability
6. Expand the professional network of the SIC
7. Utilize the currently occupied 3,000 square feet of space
8. Help establish an "innovation district" around the SIC

Utilize the Unoccupied 900 Square Feet on the Third Floor of the SIC

We have two recommendations regarding the available 900 square feet of space on the third floor of the SIC:

- Rent as long-term office space
- Convert to a multi-purpose collaboration space

The first option is to rent the space, which specifically consists of two separate rooms, as office space. This would help with the sustainability of the center by guaranteeing a financial return and effective use of the space. Though entrepreneurs and new businesses would theoretically be the primary tenants for this space, larger companies should also be considered and contacted, as they may pay to house some of their employees in the SIC. This would be beneficial to both parties, as larger companies would be in close proximity with talented entrepreneurs, while other SIC tenants would be able to network with these large and established companies, leading to future clientele. With Springfield having a rich background in manufacturing, the high-precision industry should be sought after. Connecting with companies in Connecticut, particularly insurance or other business advisory startups, may be worth researching further as well, given Springfield's geographical proximity to the Connecticut region.

Consideration could also be given to drawing in law firm startups, as patents, licenses, and legal advice are essential for all innovators and companies.

Although dedicated office space guarantees revenue for the duration of the lease, if most entrepreneurial tenants only rent their offices for a relatively short period of time—as Mr Minkarah has mentioned to us, for approximately a year—new tenants will need to be continuously found, potentially hurting sustainability.

To allow for space utilization without requiring a permanent tenant, we also recommend considering converting one or both of the available rooms into a multi-purpose collaboration space. Such rooms would see use as programmable space, which could include being a conference room, but without limiting the rooms' functionality to a fixed purpose. The room(s) should feature separable desks and chairs, capable of serving small to mid-sized groups, as well as a large, mounted monitor that can be connected to laptops or a proprietary computer. A similar space is used commonly at WPI. Referred to as "tech suites," these rooms include a conference-style table, chairs, wall-mounted monitor, and whiteboard for groups to work on projects in. An image of such a space is found below:

Figure 1. Example picture of a WPI tech suite in use.

While the tech suites at WPI are spaces intended for a single group to work in, they are also in rooms that are smaller than the vacant rooms in the SIC. The proposed rooms at the SIC would therefore ideally have multiple tables that can combine into a single larger table, along with multiple computer displays to plug into, so that multiple groups of people could work in one such room at once.

Under the multi-functional collaboration space idea, these areas would then be rented out to SIC tenants or outside companies that require a short-term meeting space or workspace. In order to operate at peak efficiency, an online rental system would be an ideal companion for these rooms. For ideas, we can look to the Cambridge Innovation Center, who offers a similar service and uses Roomzilla for clients to self-book these rooms ("CIC - More Startups Than Anywhere Else On The Planet," 2017).

Although the programmable space may be arranged to fulfill the same needs as a dedicated office space, it would face additional difficulties. Under this system, it is probable that the rooms would not always be in use, and thus would not continually generate income for the

SIC. If a tenant is renting a room as a dedicated office space for example, the room would be optimized, and constantly generate a fixed revenue. However, the collaboration space idea would require a fully reserved schedule for peak efficiency, in terms of space utilization and income. There would also be initial equipment and installation costs for the aforementioned hardware, and more research would need to be conducted on appropriate brands of furniture and technology. This concept may not at all be feasible if it conflicts with the intended use for the space occupied by VVM; if, for example, they decide to put their own collaboration or conference rooms on the second floor and rent them out, putting additional, similar rooms on the third floor could cause unwanted competition. We believe these potential problems are easy to work around, but should be kept in mind, along with questions concerning demand, cost, appropriate rental fees, and return on investment.

Expand the Marketing Strategies of the SIC

Generating interest in the SIC from interested parties, be they local startup companies or more established corporations looking to expand, will be vital to the sustainability of the center. To this end, we recommend developing and implementing a marketing campaign for the Springfield Innovation Center. This campaign should be designed to include a strong online presence (social media profiles and dedicated website), branding of the SIC, and enhancement of the building itself by commissioning murals on the walls of the building.

Online Presence

In the age of the Internet, one of the best ways to spread information about the Springfield Innovation Center is by ensuring that information about the center is available online. Of the many different ways to leave a mark online, we have chosen two that will be the most beneficial: social media and a dedicated website.

Social Media

Social media platforms can be very useful in connecting with potential tenants, partners, and other interested parties. A presence on social media facilitates more social business practices, which "[provide] formal, visible, and transparent connections that link customers and the business" (Evans, 2010). These connections may be as simple as basic name recognition (such as when a user follows the company page), but may expand to direct feedback or support via messaging or posts. These connections are also less one-sided, with consumers playing an equal role in developing the connection (subscribing to a page or "liking" a post).

This presence would also allow the SIC to develop a social network, which can expand the reach of the SIC drastically. Social networks are found to follow The Law of the Pack, which posits that the "value of networks that allow the formation of groups... grows [exponentially]"

(Briscoe, Odlyzko, & Tilly, 2006). In the case of social media, the value of a network is its ability to create connections. With social media presence, the SIC will be able to reach a vastly extended group of people which in turn provides a much larger consumer base.

Social media presence has the added benefit of being very easy to implement. There is no cost to set up a page or an account on the most-frequented platforms, capping the overall cost at the operating costs of a small public-relations department. With its ability to spread information quickly and very far, this type of marketing has proven very beneficial, as it costs little and can vastly increase traffic (Saravanakumar & SuganthaLakshmi, 2012).

Dedicated Website

A dedicated website for the Springfield Innovation Center is also crucial to the overall goal of spreading information. This is best seen through examination of an existing website. Looking into other centers, we found several center-specific websites. One specifically provided a good example to establish a set of metrics with, and indicated why having a website is a crucial move for sustainability. As a result, what follows is a case study of the Cambridge Innovation Center website (http://cic.us/). Note that the following study focuses more on the strategy, rather than details such as the actual information on the page.

Case Study: Cambridge Innovation Center Website

The homepage of http://cic.us/ ("the Website") serves mostly as a summary of all the information that the website provides, as well as a hub from which all the other pages can be accessed. This decision allows users to immediately navigate to the page that best addresses their needs.

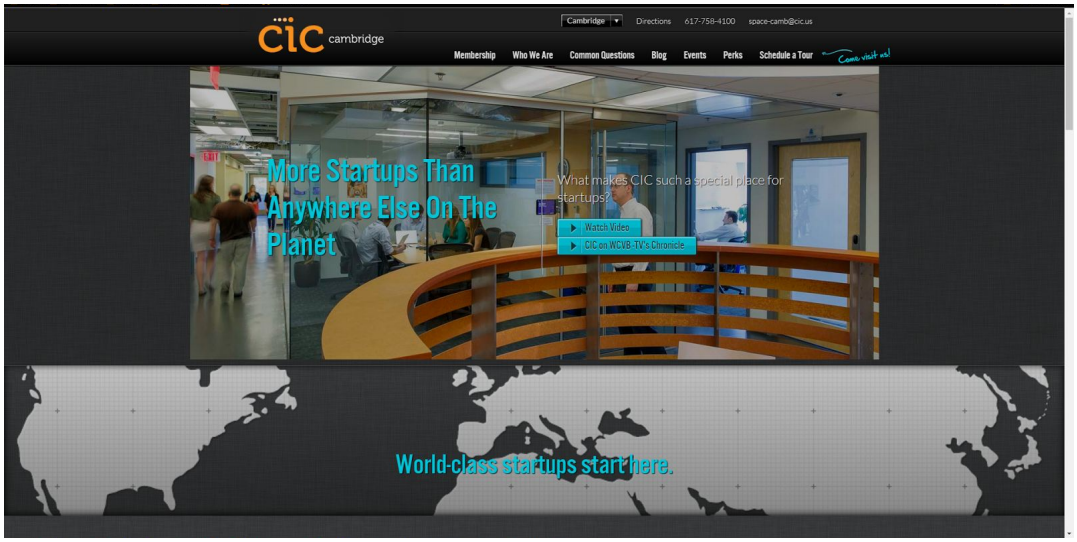

Figure 2. Homepage of the CIC's website

The Membership page of the Website provides further information about the spaces available for use, as well as the option to schedule a tour. This approach not only provides the necessary information, but also persuades the viewer to schedule a tour, which helps generate interest in the center.

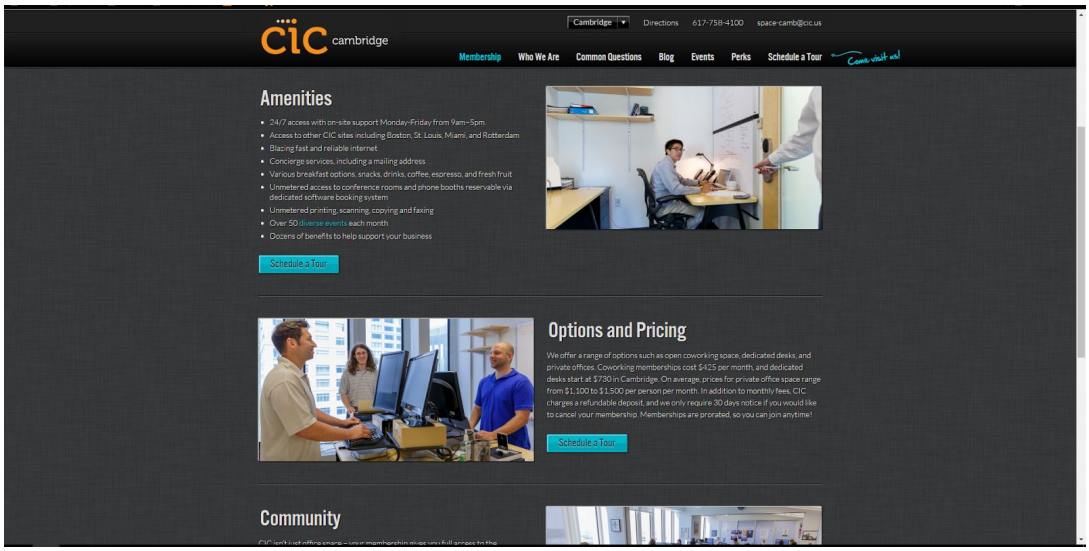

Figure 3. Membership page with buttons to schedule a tour

The Common Questions page is designed to provide large amounts of useful information in a simple and easy way, structured to answer the most overarching and common question first, and more specific questions as the page travels down. The questions chosen are about pricing—such as what is included with a rental—as well as questions about the standard tenure of participants. This information, available quickly and in one concentrated location, draws in interested parties.

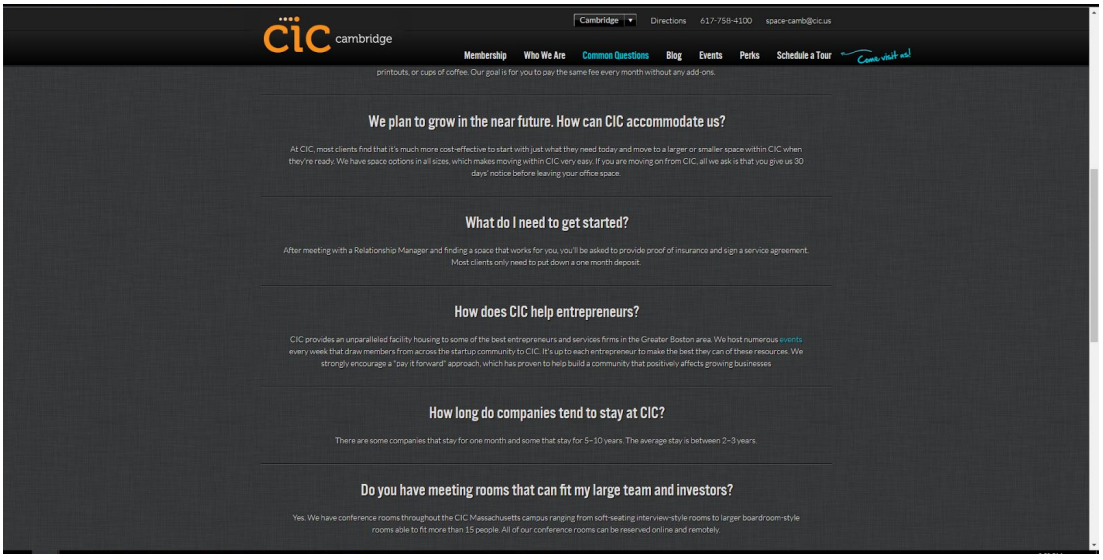

Figure 4. Common questions and answers in one central location

The Schedule a Tour page of the Website provides contact information. From this page, viewers can use one of many different methods to schedule a tour to receive more information.

The page lays out the different methods of contact, including an embedded form that allows viewers the convenience of not having to navigate away from the page.

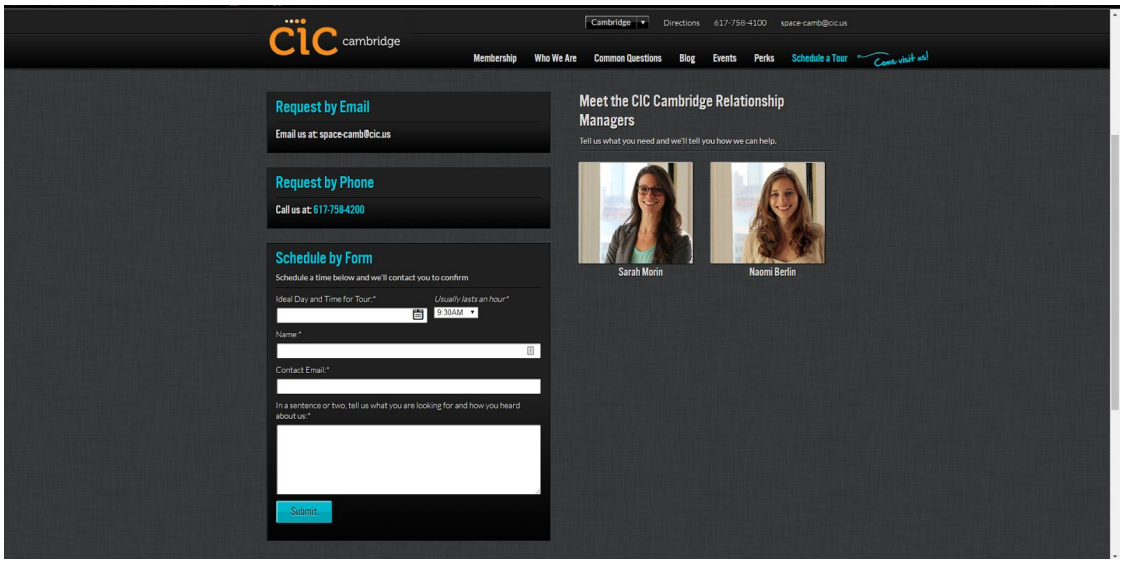

Figure 5. Several options to schedule a tour

Overall, the website provides a focused, central hub of information on the Cambridge Innovation Center, which helps to draw interest and allows for the establishment of a connection between the center and potential tenants.

This in-depth look into the strategy of the Cambridge Innovation Center website uncovers the best aspect of having a center-specific website. The ease of access for information such as pricing for rentals or memberships, a section for frequently asked questions, and the ability to schedule a tour for further information are all good ways to generate interest in the SIC. They not only provide convenience for interested parties or partners, but also for DevelopSpringfield as well.

Commission Murals on Building Walls

Under the banner of community outreach, another one of our recommendations is to add liveliness to the building by commissioning murals to be painted on the blank walls at the side and the back of the building.

Murals have been shown to have a benefit on traffic in the area. A case study performed in several Canadian towns showed that the creation of murals increased tourism from 96,000 tourists per year to 169,000 over three years in one town, and similar increases were reported in the other towns studied (Koster & Randall, 2005). While not quite on the same scale, murals on the SIC would have the same effect, drawing in more foot traffic and generating a sense of community. A mural project already underway in Springfield, entitled *City Mosaic*, by founder Evan Plotkin, has found that "'You create a visual kind of way of people finding space interesting and you suddenly start to change the conversation about what the space is all about'"

(Walsh, 2015). The same story goes on to note that while interviewing Plotkin, several pedestrians stopped to admire the art.

Figure 6. A tourist pauses to pose for a picture with a *City Mosaic* mural in Springfield.

Figure 7. Potential mural locations on the SIC.

The SIC has two areas in which murals can be painted, an area on the side of the building and the entire back face of the center. The space on the side opens into a parking lot, and is very visible to pedestrians and cars approaching from that side of the building. The back side of the center faces a series of storefronts on Worthington Street. There are multiple non-profits in the city dedicated to this kind of project that could be contacted for the purpose of convincing them to work with the SIC in order to help create a mural in one of these spaces.

Establish Branding

An overarching branding campaign for the SIC would be beneficial to its outreach, and could also serve to unify the tenants of the center to provide a more cohesive working environment. The important tenets of branding to focus on for the SIC would be to develop a logo, promote brand loyalty to the SIC tenants, and promote the use of the "SIC" acronym.

Creating a logo for the SIC has the benefit of creating a quick image that viewers can see and instantly recognize. It also ensures that official SIC communications and documents are properly identified. The logo could additionally be applied to promotional materials, both for the center itself and for partner locations in the area, such as Make-It Springfield. Once a logo is established, it can also be used passively on partnering website and media outlets. This also opens the possibility of making stickers and flyers to hand out in important parts of the city, such as Union Station, to make people aware of SIC's presence. All other innovation centers we looked into had logos that were featured heavily in their materials.

Figure 8. Logos for Cambridge Innovation Center, Greentown Labs, and SPARK Holyoke.

Creating a sense of brand unity is the next major aspect of the branding campaign. Not only does the SIC need to be cohesively branded, but so must every tenant and partner of the SIC. This unity is instrumental to perpetuating the entire brand of the SIC as a center for innovation in Springfield.

The last aspect of the branding campaign is promoting the use of 'SIC' over 'Springfield Innovation Center.' The primary benefit to this would be its easiness to incorporate three letters into a logo, rather than three words. This would keep the logo simple and visually appealing, and allow for more freedom of design in other aspects—even if the logo ends up being primarily a simple acronym, similar to the CIC's logo.

Promote Internal Synergy Within the SIC

The success of the SIC largely hinges on internal synergy between DevelopSpringfield and the SIC tenants. In order to create this cooperative environment, constant communication with VVM will be necessary, as they are the primary tenant. Specifically, we recommend sharing the first floor presentation space, so that DevelopSpringfield will also be able to offer events when the space is not in use. The presentation space would bring in some additional revenue if rented to outside personnel running talks or events, provided they are in line with the values of the center. Local schools and universities would also have the opportunity to come to such events, helping to integrate the SIC into the community.

Utilize the Test Kitchen and Café

We believe that the test kitchen and café could run special events which would garner the attention of local residents and businesses, and allow the SIC to generate further revenue beyond what it would bring in on its own via rent. Specifically, networking events could be periodically hosted in the café, sponsored by entrepreneur chefs. 'Entrepreneur chefs,' as the term is used here, would include anyone seeking to start some form of business in the culinary industry. This would include from those intending to work in, or start, a restaurant; bakers looking to create their own brand; and entrepreneurs who have a desire to run some other form of culinary-based industry, such as a food truck. Both the chefs and the SIC would benefit from such events, as the chefs are able to test their recipes and practice operating a kitchen, while the SIC benefits through increased foot traffic. The chefs are additionally able to use this to self-promote and receive networking opportunities.

A similar model is currently in use by Venture Café in the Boston and Cambridge region and has had great success. This reaffirms the viability of such an enterprise. The events there occur weekly and an open invitation is extended to other organizations in the area to come and host their own events during the "Café Nights" ("Venture Café Foundation | Boston, MA," 2017). One of these events each month is specifically dedicated to startups who use the night to showcase their prototypes and products ("Venture Café Foundation | Boston, MA," 2017). The SIC could do something similar where they have events in the café that focus on the startups currently using the SIC, to give them more visibility to the general public.

Another event that may be worth considering may be a "concept pitch night" with refreshments supplied by the café, perhaps with a name that applies some level of branding to the café itself. This idea is derived from a program called Holyoke Soup, supported by SPARK. According to SPARK's website (n.d.), people can partake in the event by paying a small donation of at least $5. The entrepreneurs 'competing' each have an opportunity to pitch their ideas to the crowd. At the end of the event, the audience votes on which idea they thought was best. The entrepreneur(s) with the best idea by vote wins, and they receive the sum of the donated money as an investment towards their idea. There is also a segment wherein previous winners take time to update the audience on their progress ("The Source That Works For

Entrepreneurs," n.d.). Such an event would connect the community, enable entrepreneurs to come out and see the ideas others have, and would spread awareness of the SIC.

We also recommend offering a "chef's special," where an entrepreneur chef cooks a unique meal to be offered at the café, without having to cater to an entire event. This would most likely be geared towards developing chefs who are not yet capable or financially ready to manage the entire kitchen, helping them to build their confidence and ability to the point of catering a major networking event. These developing chefs would be able to receive feedback from the SIC tenants and local residents, and in-house cooking would also have a secondary effect of using smell as a marketing strategy, attracting interest from potential passerby and gaining attention from tenants. Depending on how successful these ideas are, the presentation space on the first floor could be used for the entrepreneur chefs to present their food and host events.

Review Operational Sustainability

Although the Springfield Innovation Center has so far mostly been funded by grants, we realize that grants will not be a functional method for future sustainability, as they are not secure and stable. In a tumultuous economy, for example, it would be difficult to obtain sufficient funds for these projects and available funds may greatly fluctuate. Operating costs every year, such as utility expenses, supplies, wages, and maintenance, will also make it difficult for DevelopSpringfield to sustain the SIC and other such projects at maximum efficiency in the long term. We also understand the importance of renting out space at a lower price, especially for non-profit and new, low-income companies. However, we believe it would be prudent to revise and reassess the return on investment, in regards to renting out spaces significantly below-market value, in future budgeting procedures.

For example, based on some confidential interviews, we are aware of incubator programs that actually charge their tenants above-market value for their facilities. Their validation and mindset for this is that their tenants are often forced to rent out an unnecessary amount of space, instead of just what they need. Thus, even though they are charged above-market value per square foot, they still acquire a net savings, as they are able to rent only the space they require. Any equipment they need for their projects are also provided by the facility, and are included in their rent fees.

While we do not necessarily recommend going as far as to charge tenants above-market value, it may still be valuable to potentially change the business model in such a way. Of course, raising the rented value per square foot will require negotiating with current and future tenants, as it may be a sensitive subject. To save some costs, we do agree that implementing renewable energy sources, such as solar panels, is a good direction that the SIC is already heading towards. Based on these recommendations, the follow-up team should explore other potential pricing models, and look for any other methods that may reduce operating costs.

Expand the SIC's Network

Partnership

The SIC should look to partner with larger entities, similar to how Greentown Labs works with companies such as MathWorks and Zipcar. Partner companies would gain access to members-only events, be given the opportunity to sponsor startups, and would be recognized for their support with free advertisement at the SIC. In return, the Center would gain the opportunity to send tenants on tours of the larger companies, and tenants would be given free or discounted resources by the partners, such as access to equipment or experienced mentors in a relevant field. It is also important to consider major universities and networks such as UMass Amherst and WPI's Tech Advisor Network ("TAN"). In the long term, undergraduate and graduate student entrepreneurs may eventually become interested in being a part of the SIC as a tenant, or as future partners. This breeds a "cultural glue" and sense of belonging, which will support the SIC and DevelopSpringfield in many ways, from marketing to financial sustainability. Because universities are hubs for research and education, they may bring in additional expertise as well.

Sponsorship

Sponsors should be sought out to assist the sustainability of the SIC. Unlike partnerships, these entities would be given the chance to support the Center, without a direct or hands-on approach. Sponsors would still be given similar perks to partners, with access to young minds in their fields and some free advertisement, but their involvement should primarily be based on monetary contributions.

A sponsorship plan may face a few difficulties. Following our final presentation meeting with Mr. Jay Minkarah, the primary concern appeared to be finding further companies willing to contribute monetarily to the SIC, as they have already expended many of the available options. If such companies are found, however, a system will need to be instituted to determine what type of "awards" should be provided based on contributions. For instance, a company providing some funding to the SIC could be given some advertising space, while a company providing substantial funding may be given naming rights to certain rooms or even the entire Center. These logistical issues must first be researched further.

Utilize the Currently Occupied 3,000 Square Feet of Space

This space is planned to be acquired at the end of its current lease in approximately two years. In total, this will add approximately 3,000 square feet of space to the Springfield Innovation Center. Unlike the rest of the space, none of this has thus far been earmarked for anything. As such, our ideas revolve around occupying the entirety of the space, whether the space be filled by the concepts of only one of our recommendations, or from a combination of them.

Makerspace

Given the size of the space being considered, we have concluded that it could be feasible to install a makerspace into the area. Such a space would most likely be technology and business oriented. As there are no major, commercial-level makerspaces in the nearby vicinity, this would additionally fill a niche that does not result in direct competition against other local firms. To help offset the cost of fully installing a makerspace, the SIC could partner with various companies to subsidize the costs. An example would be partnering with MathWorks to receive discounts on MATLAB software, much like Greentown Labs does ("Greentown Labs," 2017). Software and equipment provided in the makerspace may also include Bloomberg terminals, 3D printers, CAD software, machining tools, and other essentials for the businesses and entrepreneurs being catered to. These types of programs would potentially draw in many local and regional personnel who are not able to afford these items individually, and would help with networking and financial sustainability aspects of the SIC, if efficiently installed and organized.

If demand is sufficient, a subscription or credit model may be worth looking into, in order to optimize the resulting revenue stream. Artisan's Asylum has a mandatory membership plan as detailed on their website (n.d.) which is a prime example of this. Their plan allows members to make use of their facilities and tools outside of standard business hours, and even offers a special Corporate Associates program that allows companies to acquire memberships in bulk with additional benefits ("Artisan's Asylum," n.d.). If a makerspace is to be considered for the 3,000 square feet, then additional considerations need to be made outlining their use and access, as well as the specifics of what would be made available.

Co-Working Space

Another possible option for the 3,000 square feet of space would be to transform it into a co-working space. The space could be divided into shared desk areas, private individual offices, and/or team rooms that would be able to house at least six people. This is projected to be a main contributor in revenue for the Springfield Innovation Center, so a membership program should be put in place such that the cost of any utilities and amenities can be recuperated, in addition to profit being made. Amenities may include access to events, free coffee, mailbox availability, desk-side charging ports, and printing options. This co-working space will not only be a way to generate revenue, but also a way to establish an ecosystem among those using the SIC space, as well as with the community itself. For this to be more successful, it is recommended that events such as movie nights, networking socials, and mentorship workshops are conducted to better establish a culture within the SIC, and with the local community.

We also recommend that the SIC look to become a part of the Workbar network to increase networking opportunities for customers; to become more well-known in not only Springfield, but also in the state of Massachusetts; and to establish itself as a prominent innovation hub in the Western Massachusetts area. This connection will be valuable because most networking organizations and hubs tend to be in the Eastern/Central Massachusetts area. As

an innovation icon in Western Massachusetts, the SIC will be able to attract regional professionals who are closer; however, there are some drawbacks to consider as well.

One concern with this is that there are already existing co-working spaces in the Springfield area such as Dockit, TechSpring, and CoWork Springfield. In addition to this, VVM has considered placing a co-working space in the SIC as well. An oversaturation of co-working space may lead to increased competition. A second drawback to this recommendation is that for this to be a sustainable option, the space must be rented out frequently, as occupants may decide to only use the space for as little as a few hours. As such, long term commitments may be difficult to obtain.

We believe that if this option is chosen for the 3,000 square feet, a membership plan would also be optimal to facilitate usage of the space. A mockup table detailing hypothetical levels of membership for such a co-working space can be found below:

Table 1.
Proposed Co-working Membership Program.

Level	Perks
All	● Free coffee at the café ● Printer Access ● Use of open workspaces
Hourly/Daily	No extra perks
Five Days per Month	Small perks ● Some free private meeting room access ● Cheaper than daily payment
Monthly	More Perks ● Can use other co-working spaces a few days per month (if in the Workbar network) ● Storage ● Business mailing address
Team	● Includes private conference room for larger groups (approximately 20)
VIP	Most Perks ● VIP status given for free to all tenants ● Dedicated desk ● Includes previously stated perks

Table 1 came about based on examinations of similar membership programs offered by other co-working spaces. One of the spaces we looked at was Workbar, a network of seven co-working spaces mainly located in Eastern Massachusetts. They offer membership as a single point of access for all seven spaces, and memberships can be part-time or full-time ("Reimagine How You Work," 2017). A breakdown of their membership plans has been recreated here:

Table 2.
Workbar Network Membership Plans.

Type	Rate	Amenities
Part-Time	$30.00/day $125.00/month	Daily: ● Use of open workspaces ● Meeting rooms at $25/hr. and up Monthly: ● 5 days per month of access ● Use of open workspaces ● 5 hours per month of meeting space
Full-Time	$350.00/month	● 24/7 access to home location ● 5 days per month access to other co-working locations ● Storage and mail options ● Unlimited meeting rooms ● Use of open workspaces
Dedicated Space (Desk)	$400.00 - $600.00/month	● Dedicated desk with a lockable cabinet ● All benefits of Full-Time level
Dedicated Space (2-6 Person Offices)	$1,200.00 - $3,000.00/month	● A lockable, furnished private room ● Full memberships for each desk in office ● All benefits of Full-Time level

Note. Retrieved from Workbar's website and tabulated. Copyright 2017 by Workbar Inc.

We also looked at Running Start, a co-working space with one location in Worcester, MA and another in Oxford, MA ("Running Start," 2017). They are a part of the Workbar network, but also offer their own individual membership plans ("Running Start," 2017). A table of their membership levels, benefits and costs can be found below:

Table 3.

Running Start Membership Plans

Type	Rate (Per Person)	Amenities
Day Passes/Person	$35.00/day	● Wi-Fi and coffee included ● Group discounts
Fiver (Monthly Passes/Person)	$100.00/month	● 5 days of access for the month ● 1 hour of meeting room space ● Wi-Fi, coffee and utilities included ● Printing and copying included ● Access to all Running Start events ● 1 day per month at any Workbar Network location
Full Time	$200.00/month	● Unlimited 24/7 access ● 5 hours of meeting space ● Wi-Fi, coffee and utilities included ● Printing and copying included ● Access to all Running Start events ● 5 days per month at any Workbar Network location
Dedicated Desk	$225.00/month	● Dedicated desk with a locking drawer ● Includes one full time membership
Private Office	$500.00/month	● Includes two full time memberships ● Access to all Running Start events

Note. Retrieved from Running Start's website and tabulated. Copyright 2017 by Running Start.

The third co-working space we looked at was Clearly Coworking. Their plans stand out from the others above, as they have annual rates for their rental spaces ("Coworking, Meeting Rooms, Conference Rooms, Shared Offices, Private Offices," n.d.). The others tended to only display hourly, daily, and weekly rates. Clearly Coworking's rates are reproduced here:

Table 4.
Clearly Coworking Membership Plans

Type	Rate
Open Desk (Shared Space)	Hourly: $5.00 Daily: $25.00 Weekly: $125.00 Monthly: $225.00
Private Office	Hourly: $15.00 Daily: $45.00 Weekly: $225.00 Month to Month: $720.00/month Annual: $575.00/month
Meeting Rooms	Depending on the size of the room: Hourly: $15.00 - $20.00 Daily: $120.00 - $160.00 Weekly: $500.00 - $650.00
Team Room (1-4 People)	Month to Month: $2,000.00/month Annual: $1,600.00/month
Twin Room (1-2 People)	Month to Month: $1,250.00/month Annual: $1,000.00/month

Note. Retrieved from Clearly Coworking's website and tabulated. Copyright by Clearly Coworking.

All of the above co-working spaces additionally host events that aim to build a culture not just within the buildings themselves, but also within their respective communities. These co-working spaces base their rates of use for business hours, and any use outside of business hours is typically charged higher, depending on whether it is during a weekday or weekend. Business hours typically begin either at 8:00 or 9:00 a.m., and end at 5:00 p.m. In addition to events, the aforementioned co-working spaces operate their own individual blogs where they post success stories of those who had used their spaces, as well as articles on how to successfully run a business. They are self-sustaining ecosystems that inspire entrepreneurs to reach their full potential, while connecting them to others in the community who share the same goals.

Wet Labs

Another possible consideration for the 3,000 square feet of space would be to install a wet lab into some or all of the new space. We have found that lab space is usually provided in conjunction with a co-working space. For example, Creagen Life Science Incubator in Woburn, MA provides, in total, approximately "8,000 sq. ft. of lab and office space" ("Business Incubator | CreaGen C2I | Life Science, 2016"). Similar locations such as Biolabs and LabCentral provide equivalent conditions ("Coworking Lab & Office Space | BioLabs," 2017; "LabCentral," 2017). With this in mind, working out a cooperative program with VVM, such that those who use the lab space would be able to work in their second floor co-working space, may be valuable. For this to be successful, an expansion of real estate would need to be considered, so that the SIC would be able to increase the capacity of work that could be done in the lab space.

This recommendation does have its drawbacks. To run a facility such as this, professional and licensed employees must be on staff at all times, and disposal of waste, storage of dangerous chemicals, and installation and maintenance of sophisticated equipment can lead to a significant increase in startup and operating costs. Until proper demand and overall costs are found, we are hesitant to consider this as a proper recommendation, as we have also received strong cases made by professionals for both sides.

Specialized Office Space

If all other options for the 3,000 square feet appear to be too infeasible for proper implementation, another consideration would be to install additional office space there. This space would operate similarly to the 900 square feet of space on the third floor, except on a larger scale. As a result, the positive and negative aspects of this space remain the same as those for the 900 square feet of space, albeit more pronounced. Having more rentable space will allow for more income from rent, but will require more tenants to sustain the process.

Help Establish an "Innovation District"

We hope to see the SIC lead the development of a full innovation district in Springfield; however, on its own, the SIC does not constitute an entire innovation district. As such, we have derived some preliminary suggestions to help the SIC, and the area as a whole, begin to establish a proper innovation district.

First and foremost, the SIC will need to build positive relationships with the community around it. Fostering friendly relationships with nearby restaurants, other co-working spaces, and fellow non-profits in the area, such as The Community Foundation and MassDevelopment, will make collaborations in the future easier. These relationships could also see other uses within the SIC, such as additional perks for higher tiers of membership if a membership plan is pursued.

This could also allow for advertising at these other locations, thus further increasing the visibility of the SIC and promoting foot-traffic in the area.

Second, other companies and innovation-minded firms should be drawn into the area. During our time in Springfield, we noticed a large number of empty storefronts in the area around the Springfield Innovation Center. MassDevelopment has separately created a map of the local area which marks these empty storefronts. A copy of this map has been reproduced below, with empty storefronts marked by red dots:

Figure 9. Empty storefronts in the vicinity of the future Springfield Innovation Center. Red dots in the picture represent vacant spaces. *(Picture provided courtesy of MassDevelopment)*

Some or all of these could feasibly be rehabilitated, similar to the SIC building, to become homes to other innovation-centric companies. One source, an article written by Nate Storring and Meg Walker called “Eight Placemaking Principles for Innovation Districts” (2016), notes that among other things, innovation districts tend to offer a wide array of services beyond those directly linked to innovation. These empty storefronts could also become homes to such businesses, like gyms or convenience stores (Storring and Walker, 2016). The area has great potential to become a thriving innovation district if enough investors and appropriate businesses repopulate the area, and make an effort to cooperate by sharing resources and networks.

The third idea we had was to improve nearby public spaces. Doing so would help make the community more inviting and give people welcoming places to socialize and network. Two key examples of public spaces to improve are Stearns Square and Duryea Way. Plans for renovations of both spaces are already under way by MassDevelopment, and a copy of their plans has been reproduced here:

Figure 10. Blueprints for proposed changes to Stearns Square Park and Duryea Way. *(Picture provided courtesy of MassDevelopment)*

Renovating these spaces also lines up with Storring and Walker's article (2016). These spaces could provide key places that draw people in and offer them a place to socialize, fostering networking assets that increase the access entrepreneurs have available. Improving these spaces would also make the district more walkable, which aligns with the concept of proximity outlined in Storring and Walker's article—that buildings and firms being close, merely in terms of sheer distance, is not enough (Storring and Walker, 2016). Following through with the creation of one or more murals as suggested earlier would also provide similar benefits of improving the public spaces around the SIC itself, and help contribute to these same goals.

Handoff Projects

Our group was tasked with finding any root problems and any missed questions for the project, as well as researching their possible solutions. Based on our research, recommendations, and feedback from Mr. Minkarah of DevelopSpringfield, we have boiled our research down into four general project ideas for the following team. They are briefly outlined on the following pages.

Project: Analysis of Rentable SIC Space

Suggested Team Size: 2-3 People

Recommendation

Finalized plans need to be put in place for the open space in the SIC—specifically, the 900 square feet on the third floor and the 3,000 square feet to be acquired from its current owners in two years. Options for each space need to be analyzed further in-depth such that a final conclusion can be made on what model each space should assume.

Background

The 900 square feet on the third floor consists of two rooms, currently unfurnished. As per the recommendations outlined in the paper, our two primary ideas for this space were to convert it either into additional office space, or into multi-functional conference and collaboration rooms. In both cases, the rooms would be rented out to generate revenue for the SIC; however, uncertainty remains as we are unclear which would be more viable in the long-run. While the office space would likely be a 'guaranteed' revenue stream, the conference space would allow for more programmability of the space, and may also be highly demanded by tenants and local businesses. Both cases are not without their concerns, as there will be a need for people to occupy them. If the market demand is not strong enough, the SIC would lose capital and waste space. Additionally, efficient use of the conference space would require setting up an online rental program, through software such as Roomzilla. Ultimately, it would be up to the people who investigate this to determine which option is more cost-effective and provides a better return on the initial investment.

The 3,000 square foot space is open to much improvement as it will be completely empty after the lease of the current tenants is up. As per the recommendations outlined in the paper, our three primary proposals were to convert the space into either a makerspace, co-working space, or specialized office space. Another potential option for this space was to convert it into a wet lab. The most viable option, that Mr. Minkarah of DevelopSpringfield was also interested in, is the makerspace. It would house computers equipped with programs such as CAD, Bloomberg terminals, and any other essentials for entrepreneurs. In addition to this, equipment such as 3D printers would be offered in the space to allow for business owners and entrepreneurs to come and prototype any ideas they may have. While maintenance of 3D printers will be a minor, extra utility, they are becoming essential for tech-oriented businesses, but can still be too costly for an individual to own. Hence, it may be a good method of drawing people in. Co-working space and specialized office space bring up similar concerns as the 900 square feet of space. The wet lab option requires further analysis and research. Our main concerns for this option were the need for initial capital, as well as high operating costs. The equipment tends to be expensive, and requires specialized staff to oversee the facility at all times. We also assume it would require licenses and raise potential safety concerns. If demand is high however, a wet lab may be the "next big thing" to help kick start the SIC.

Other Notes, Considerations, and Recommendations:

For the 900 square feet, the next team should look into acquiring metrics, if at all possible, from WPI's own tech suites. Since these suites function similarly to how we envisioned the multi-functional collaboration spaces, they provide a good baseline examination of how frequently such a space is occupied. Such data, of course, would need to be taken with the understanding that the customers who would use WPI's tech suites are distinctly different from customers that would make use of the collaboration spaces in the SIC. As such, this would only really serve as a baseline foundation for questions like "would such a space always be occupied?" Additionally, the team should further investigate, and possibly visit, the Cambridge Innovation Center, as they have their own version of this type of space, and would have a customer base more similar to that of the SIC than WPI would.

For the 3,000 square feet, the team should investigate other makerspaces and innovation centers, to help provide an idea of the daily operation in a standard makerspace, wet lab, or co-working area for comparison to what the SIC has available. Some notable centers worth looking into include the following:

- Greentown Labs, Somerville, MA
- Artisan's Asylum, Somerville, MA
- SPARK, Holyoke, MA
- TechSpring, Springfield, MA
- CoWork Springfield, Springfield, MA

By looking over these centers, the team can get an idea of how much space would be needed for a makerspace, co-working space, or wet lab. They could also glean information on the costs of such spaces, or have an idea of what goes into each space so that the costs can then be later researched independently. It should also be noted that this is not an exhaustive list of centers the team should look into, as there are too many innovation centers in the local area for such a list to be useful. A designated radius of the Springfield region should also be determined to see how much co-working space is needed. Based on this, the cost of those spaces should be researched.

Project: Analysis of the SIC Test Kitchen

Suggested Team Size: 2 People

Recommendation:

Research and contact entrepreneurial chefs that have gone through programs such as Commonwealth Kitchen's incubator program, to get an idea of what worked and what failed for them in the program.

Background:

The SIC test kitchen area is going to be an operation that is of similar size to that of the 3,000 square-foot space. It is going to be fully equipped with the basic amenities of a commercial kitchen; however, the total space is not going to be mainly used for preparing food, as any food that is sold through the café is going to be produced off-site. The menu of the SIC café is going to be very simplistic. Currently, Mr. Minkarah has brought in an operations manager who is going to be in charge of the operations of the SIC café. Mr. Minkarah also mentioned to us in our final presentation meeting that this operations manager is receptive to the idea of bringing in entrepreneurial chefs to test their recipes, and prototype and prepare food.

Other Notes, Considerations, and Recommendations:

The team should start by looking into other kitchen incubators in the Massachusetts region, such as Commonwealth Kitchen in Boston. If possible, the team could take a tour of their facilities and receive information from them about some of their successful clients. Next, the team can reach out to these clients to interview them on the concept of a kitchen incubator from the client's side—what worked, what didn't work, what they liked, what they think would have helped, and so on. This information could then be applied to the SIC's test kitchen as applicable.

High-value concepts for this project include local demand for entrepreneur chefs, and the startup and operating costs of a test kitchen, which may possibly be identified from Commonwealth Kitchen or other kitchen incubators.

Project: Marketing Analysis

Suggested Team Size: 2 People

Recommendation:

Do further research into local marketing possibilities to enhance the visibility and recognizability of the Springfield Innovation Center, such as through the creation of a mural, various forms of social media, and ads in key locations.

Background:

As of yet, marketing is a topic that the SIC has not put much focus on. This is an avenue that can provide a lot of support in the form of driving foot-traffic. The primary focus of this project would be on tasks that help promote the SIC in terms of advertising. Key points to pursue include the creation of murals on the side and/or back of the building, identification of key places to place marketing material, and the creation of social media profiles specifically for the SIC itself.

Other Notes, Considerations, and Recommendations:

For the mural, potential artists would need to be identified. In addition, the content would need to be determined in terms of what would and would not be appropriate, and what clearly depicts the SIC's message best. It would be ideal for the project team to actively reach out to the Springfield Central Cultural District or City Mosaic, due to both groups' history of public works of this general form.

A survey or focus group featuring residents of Springfield could be conducted for this project, to determine what forms of marketing would be most appropriate and what concepts would fit best into the potential mural or murals. We initially had considered doing a survey during our project, but discovered that we had come across the idea too late to provide accurate and useful data. While not all of the questions we came up with would be useful to the team that works on this project, we feel that some of the questions would be worth considering when making a survey, if a survey is deemed appropriate. The questions are as follows, with potential responses in brackets:

1. Have you heard of the Springfield Innovation Center?
   [Yes, No]

    a. If so, how did you first hear about the Center? (Choose all applicable options/"Check all that apply")
       [Word of Mouth, Seeing it in Person, Advertising, Social Media, Other]

2. Please rate how you feel about the Springfield Innovation Center on a scale of 1 to 10.
   [1-10 Scale: 1 is "Highly Negative," 10 is "Highly Positive"]

3. What would you like to see come out of the Springfield Innovation Center?
   [Short answer]

4. Have you heard of Valley Venture Mentors or Make-It Springfield before?
   [Yes - Valley Venture Mentors, Yes - Make-It Springfield, Yes - Both, No]

    a. If so, how did you first hear about Valley Venture Mentors/Make-It Springfield? (Choose all applicable options)
       [Word of Mouth, Seeing it in Person, Advertising, Social Media, Other]

This list is not complete, as the rest of our questions do not really fit with this or any of the other projects being considered for the next term.

Additionally, Psychology in Advertising by Theodor Poffenberger (1925) notes a few concerns to keep in mind, in regards to surveys. First and foremost, not many people will return a survey; Poffenberger estimates the return rate at anywhere from 1% to 10%. As such, the survey should be as simple and unobtrusive as possible. Ideally, the initial questions should draw the survey-taker in. By appealing to them, questions should motivate survey-takers to genuinely want to help. Questions should be kept short both individually and as a whole. If a survey had 50 questions, far fewer people would be willing to answer it. Poffenberger advises about 10 questions as an ideal length. Multiple choice questions are considered better than open response, as they are easier both for the survey-taker to answer, and for the survey's author to later analyze. Multiple choice questions can also be used to have the audience choose between a few important options rather than asking them an open, response-style question. Lastly, Poffenberger advises avoiding ambiguous wording, leading questions, and difficult or unreliable questions—such as those pertaining to one's income (Poffenberger, 1925). While these guidelines do not need to be followed to the letter, it would be advisable to at least keep them in mind.

It may also prove useful to look into Part I of *Psychology of Advertising a New Century* (2002) by Paul Rutsohn for further insight into the concept of marketing. Further information can be found in the Marketing Research section of our Appendix.

Project: Networking Within the District and with Companies

Suggested Team Size: 2-3 People

Recommendation:

The SIC needs to focus on corporate networking—specifically, by expanding on the concept of partnership and sponsorship. The team must make in-depth analyses regarding potential partners in the Western Massachusetts region and potential sponsors within the New England region.

Background:

DevelopSpringfield's mission is to bring innovation to Springfield and help the city to become a leader in innovation. After researching successful innovation centers and incubators, our team concluded that the most successful have outstanding networking skills, and consider networking a top priority. We recommend following a model similar to WPI's Tech Advisors Network, focusing first on networking in the local area, to strengthen the culture and economy, then expanding gradually to strengthen ties to non-local regions. This expansion will attract more entrepreneurs to Springfield, further strengthening the local economy. Through establishing partnerships with universities such as UMass Amherst and WPI, outreach programs may find graduates and undergraduates who would in turn bring businesses, project development, and grants to the SIC. Similar to partnerships, sponsorships will allow for expansion, but on a more corporate scale. Sponsorship will give the SIC access to financial capital, new customer bases, and marketing strategies; however, developing a concrete sponsorship process requires additional research. The next steps are to define the potential partners and sponsors, as well as to provide a cost/benefit analysis on securing a particular organization as a partner or sponsor.

Other Notes, Considerations, and Recommendations:

The team should work with the designated Marketing Analysis group, as one survey can provide information for both teams. The team may also want to consider reaching out to local manufacturing companies, as Springfield has a strong manufacturing history. Sponsors should not be as much of a focus as partners, as DevelopSpringfield seems to have very few options left in terms of companies they have already contacted.

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Appendix

Methodology

Pre-Qualifying Project ("PQP")

Before starting the project, our seven-person team formed a team agreement in order to retain efficiency and communication within the group, and to establish a method to solve conflicts or disagreements if the need arose. Similar to a formal contract, we each participated in drafting the agreement, and assigned roles to further streamline future tasks. Following some of Professor Kevin Sweeney's recommendations and concerns, this document was revised and updated until all members of our Pioneer Valley Interactive Qualifying Project ("IQP") were satisfied, which helped to sustain a stable and functional team throughout the project. Our group also established a penalty system for showing up late to a meeting, by requiring that late or absent member to bring donuts to the next meeting. This penalty system worked out quite well, and kept all members attentive and on-time. Our primary internal method of communication was through a software called Discord, where text and voice chat options were available, along with an email alias that was used when interacting with the project advisor, Professor Sweeney, and project stakeholders. For all of our research, we agreed to use Google Drive and Basecamp 3 as a means of sharing documents and findings.

In preparation for this project, we also researched a few business models related to assisting startup companies. Mainly, we focused on incubators, accelerators, and co-starters. The aim for all three business models is to help entrepreneurs and startup companies flourish, but implement different strategies and methods of approach, with varying timelines and requirements.

An incubator is a program that is usually sponsored by private companies, non-profit organizations, colleges, and universities, according to an article from Entrepreneur Magazine's online encyclopedia (2017). In these programs, startups are usually provided with manufacturing space at below-market rates, mentorship and advice for developing business plans, and financial aid to help fund an undeveloped idea that may have large potential. On average, a startup would spend about two years in an incubator program. In addition to the provided space and mentorship, businesses in these programs often share the expenses of production equipment and office space in order to reduce the overhead and operational costs (Entrepreneur Staff, 2017).

Contrasting the incubator is the accelerator, a program that normally lasts between three to six months. According to an article written by Ian Hathaway (2016), accelerators are based around team efforts and driven by mentorship programs. Besides the shorter time-frame for the projects, accelerator programs typically involve investors taking partial ownership of the aided companies. Top accelerators have been seen to greatly assist the development of small businesses. Hathaway notes that "when matched with a comparable group of companies that didn't participate in accelerator programs, those that graduated from top programs saw an acceleration in reaching key milestones, such as time to raising venture capital, exit by acquisition, and gaining customer traction" (Hathaway, 2016). The concept of accelerators is relatively new, with the first being launched in 2005. According to Vasily Ryzhonkov, in his

article “Startup Accelerators. The History and Definition” (2017), advancements in the technology sector have made becoming an entrepreneur much more accessible, with options to create a business with little to no production cost. Accelerators appeal to these types of startups, as they do not need to spend time prototyping and manufacturing, and as such can greatly advance in smaller time frames (Ryzhonkov, 2017).

Co-starters are similar to accelerators in that they are fixed-term; however, they are often even shorter, typically lasting about nine weeks according to the website for a Birmingham chapter (2017). Companies participate in co-starters during the earliest stages of business. Aspiring or experienced entrepreneurs meet and work with both their mentors and each other for nine weeks to build a business model for their ideas or inventions. The overall size of a given “cohort”—the program’s name for the aforementioned groups of entrepreneurs—tends to be small, with typically no more than sixteen people in a group. The program applies “high-growth startup methodologies” to small businesses in order to help get them off the ground (“CO.STARTERS,” 2017).

Interactive Qualifying Project (“IQP”)

An IQP is a two-term venture, with the first term consisting of the Pre-Qualifying Project, a period for initial research and team building, and the second term being the full project. Our first step in our IQP process was to meet with our sponsor, Mr. Jay Minkarah, to properly identify the needs of the SIC, and to determine a metric for success. After our initial meeting in Springfield, we began to establish a set of recommendations over time that occasionally evolved as we found new information from our email correspondences and research. Through our discussions and research, we understood that our recommendations had to focus on many tangible and conceptual aspects of the SIC, as well as the surrounding area. The long-term success of the SIC depends on a multitude of factors, which we have funneled down into specific options for Mr. Minkarah and the next group to work with and solidify.

Initial Meeting

We started our project with a visit to Springfield. We had our first meeting of the term in the morning with our advisor, Professor Kevin Sweeney, and with Professor Diane Sabato of Springfield Technical Community College (“STCC”). STCC honor students were to be partnering with us throughout the project for class-credit. We then reviewed the project, and discussed the plan moving forward. After this initial meeting, we all met with our sponsor at the Springfield Innovation Center. Mr. Minkarah took us on a tour of the Innovation Center during its construction. He provided us with the background of the Center, and explained DevelopSpringfield’s role in the project. Additionally, we had time to discuss the plans and layout of the building, as well as some information on the primary tenant, Valley Venture Mentors.

This was when our problem was truly defined by our sponsor: to aid in attaining sustainability for the Springfield Innovation Center, and determine what the SIC may be lacking. After the tour of the Center, Mr. Minkarah took us on a tour of the key attractions and locations in the immediate area. Places such as Stearns Square, the train station, the currently under-construction casino, Make-It Springfield, and Red Rose Pizzeria are all within walking distance of the SIC, and play an extensive part of the culture that must be considered while developing the Innovation Center. We also met with other stakeholders, such as Ms. Laura Masulis of MassDevelopment, and Mr. Scott Hanson, a Principal Planner for Springfield's local government. During this meeting, they explained their upcoming projects within downtown Springfield, along with what their concerns and plans were as well. This further broadened our understanding of the project, and how the Springfield Innovation Center would tie in with other projects, ultimately achieving the goal of innovating and developing Springfield. On the drive back to Worcester, followed by a team meeting, we developed our methodology. Our plan of action was to create a list of contacts to meet with, and begin research on the following key areas: innovation centers, innovation districts, makerspaces, co-working spaces, and marketing strategies.

Meeting with WPI TAN

The next step was to identify the customers' needs. With our primary customer being the Springfield Innovation Center, we thought we could best identify its needs through observing an incubator at work. Our team contacted Ms. Sarah Mahan, the program director of Worcester Polytechnic Institute's Tech Advisor Network ("TAN"), to organize a visit during an event which took place on Thursday, February 16th. During our visit, the team was invited to sit in on two meetings in which startup companies would meet with their advisors. The first meeting was for AMProtection, a startup working to license the use of antimicrobial coated urinary catheters to help combat antibiotic resistance. The second meeting was with Enerscore, a company which uses complex algorithms to map out buildings' energy consumption. The teams received great advice regarding long-term planning, as well as legal counsel from their advisory board. After each meeting, the advisors were kind enough to also listen to our pitch on the SIC project, providing us with some in-depth discussions and analyses. We retained their contact information for further questions that we or the next group may have later on. After the meetings, presentations of startups were scheduled, in which multiple teams had the opportunity to pitch their company and product ideas to TAN. Each were asked a series of questions by some of the 50+ advisors in the room to determine the sustainability and feasibility of each company. At the end of the presentation, contact information was provided to all advisors, for those who wanted to become involved with one of the startup companies who had pitched their ideas.

Contacts

Over the course of the term, we maintained conversations with several key members of the Springfield community with respect to the project, in addition to contacts elsewhere, such as Ms. Mahan. The purpose of these conversations was to glean information that we felt would be important to our research. Through these channels, we were also able to procure reference materials as necessary, such as blueprints and future plans for the nearby Stearns Square Park and Tower Square Park.

The primary form this contact took was through emails. During some of our review meetings, we would set aside time to collectively draft emails to key individuals. This was to ensure that they maintained an appropriate level of professionalism and brevity. At the end of these meetings, one or two designated members would send out the emails. When they received responses, the emails would be forwarded to the entire team so we would all have them as reference points. People from the community that we emailed included Mr. Jay Minkarah, Ms. Laura Masulis, Mr. Scott Hanson, Mr. Kevin O'Sullivan, and Mr. Joe Bush, among others.

In addition to these emails, we also held a conference call meeting with Mr. Minkarah about halfway through the term. The primary goal of this meeting was to give him a live update on what progress we had made thus far in the term. In addition to this, we asked him questions in order to make sure we had full comprehension of their underlying concepts and dilemmas. During this meeting, we learned that in addition to the space we were already working with, DevelopSpringfield would be acquiring an additional 3,000 square feet of space in approximately two years, on the first floor of where the Innovation Center will be. The tenant who currently occupies the space will be reaching the end of their lease by that time. After this period, DevelopSpringfield plans to obtain the space in addition to what the Springfield Innovation Center already has. This conversation and revelation led us to also consider potential uses for this new space.

Following our visit to WPI TAN, we met with two key people who played an important part in our thought process and recommendations: Mr. Kevin O'Sullivan and Mr. Joe Bush. Our first meeting following the TAN event was a phone call on Monday, February 21st with Mr. Bush, Ph.D. and Executive Director for Worcester CleanTech Incubator. Mr. Bush was kind enough to share his knowledge on the Springfield area, as well as his experience working with incubators. His biggest concern for our project was the relatively young relationship between Valley Venture Mentors and DevelopSpringfield. From what we listed, Mr. Bush believed that the biggest strength of the Innovation Center was its location and potential for business. Our conclusions from our conversations with him included pulling in potentially interested parties such as UMass Amherst, numerous local WPI Alumni, and possibly sponsoring companies such as Smith & Wesson and Tech Foundry. This would be to better solidify the Springfield Innovation Center's spot in the community, and transform it into the center for innovation that DevelopSpringfield is looking for.

On Wednesday, February 22nd, we had an in-person meeting with Mr. Kevin O'Sullivan, President of Massachusetts Biomedical Initiatives ("MBI"). Mr. O'Sullivan was very insightful and invited Mr. Jon Weaver, Chief Operations Officer of MBI, to join us. They had plenty to

share about the area and the importance of customer demand, and Mr. Weaver, who had previously worked as part of MassDevelopment, had prior experience working with Mr. Minkarah, and was thus able to better relate to our project. Their most important advice to us was to focus on satisfying customer demand, while retaining profit for sustainability. This was heavily discussed within our group, and a plan of action was put into place for the following team. After our meeting with Mr. O'Sullivan had concluded, Mr. Weaver offered to take us on a tour of their facilities. We accepted the offer, and by the end of the tour, it was clear exactly how important specializing in satisfying the customer demand was, after seeing MBI's Operations at work.

Plan

Our plan to address the problems, as the first-stage research team, was to identify key concepts and terminology, research other innovation centers and districts to use as a standard, and brainstorm potential ideas that would be fundamental for an innovation center. From a more analytical perspective, we followed a plan similar to the Six Sigma DMAIC Process, and began to Define, Measure, and Analyze the problems. Although we understood Mr. Minkarah to be the primary internal customer for this project, there were other stakeholders involved, which made the initial Defining portion difficult to solidify. In order to prevent ourselves, and the project, from expanding out of scope, we decided to focus mainly on the Springfield Innovation Center building itself. While this was the main focus of our investigation, connections and resources were taken into account, as well as potential demands from external customers like the entrepreneurs and businesses planning to work with the SIC.

In the Measuring process, we collected data about other successful innovation centers and districts to create a vision of what the SIC and downtown Springfield area could become in the long term. This provided us with valuable information about options that would be realistic, and what the SIC may lack. The Measure portion of this mapping phase also helped us to functionalize a success metric for the SIC: to create jobs, allow entrepreneurs and startup businesses to flourish, financially sustain itself long-term, and generate foot-traffic around the surrounding four-by-four-block area. While our group's focus was less about diving too deeply into actually solving the operational portions of the problems, we did begin to Analyze what could be implemented or improved, based upon our findings in the Measure portion. These recommendations should be further researched by the next group, to see what has higher demand, what resources are available, and what is realistically viable, before being implemented.

Pitfalls and Shortcomings

Our team had faced some difficulties over the course of the project. Our preliminary PQP research was based mainly around choosing a model for the SIC to follow. We then discovered VVM's accelerator program through a meeting with Mr. Jay Minkarah, requiring us to adjust our research avenues to fit the current problem statement. The statement was further defined in our

midterm meeting with Mr. Minkarah; however, the in-person meeting was unfortunately prevented by weather, and thus took the form of a conference call, which, although very helpful, possibly yielded less information than an in-person meeting would have.

A few shortcomings on our behalf include the survey and last-minute TAN meeting. We did not consider conducting a survey until a later stage of our research, leaving too little time for statistically appropriate distribution and analysis. Similarly, we attended a TAN meeting during the last few weeks of the project, which yielded a host of useful information and consideration points, but not enough time to compile and research their validity in other geographical areas, as well as how to most effectively implement them.

Research

Following our methodology meeting, we split our research up accordingly between the team members. Starting with innovation centers, we identified successful businesses that we felt were similar to the Springfield Innovation Center, such as the Cambridge Innovation Center, SPARK, Commonwealth Kitchen, and Greentown Labs. The approach was for our team to separate into teams of one or two members, and research an assigned business. In-person team meetings were mainly held on Mondays, Wednesdays, and Fridays to review our findings and to assign work for the following meeting. We would also occasionally meet online via Discord if any short meetings were needed, or if certain members were unable to attend. After researching other innovation centers, our group split our focus between innovation districts and marketing. Although our primary focus for this project was about the SIC itself, we understood that it was necessary to look at the entire local and regional ecosystem, and see how each part would play a role. Thus, we decided it would be appropriate to look into how a successful innovation district functioned, as downtown Springfield was intended to become one in the future. Our team also believed that marketing strategies would eventually play a crucial role, in order to garner the attention of potential entrepreneurs and businesses that would be interested in becoming a part of either the SIC itself, or the Springfield innovation district as a whole.

Springfield Background

Springfield has always served as an industrial and cultural hub for not just the region of Western Massachusetts, but also for the United States as a whole, in its long history. Springfield was founded in 1641 as a town, and officially became a city in 1852, as the town's government website states in a section discussing the city's history (2017). The city is located along the Connecticut River and its location between Boston and New York led to it becoming an industrial epicenter ("History and Culture," 2017). Springfield Union Station, erected in 1926, has served as a connection between Hartford, Boston, and Worcester, allowing Springfield to thrive economically, and serving as a lead to the cities' industrial booms ("Springfield, MA (SPG)," 2016). Union Station is currently under renovation, but will provide local and regional

bus service, Amtrak rail service, and rail services between Springfield and New Haven in the future ("Springfield, MA (SPG)," 2016).

Springfield is home to landmarks such as the Springfield Armory, Smith & Wesson, the Naismith Memorial Basketball Hall of Fame, and the Dr. Seuss Museum. The Springfield Armory served as a major supplier of arms to the United States in conflicts such as the Civil War, World War I, and World War II ("The Springfield Armory," 2009). Smith & Wesson is the largest handgun manufacturer in the country, and continues to provide arms to the United States military and civilian personnel ("Western Mass EDC Industry," 2008). The Basketball Hall of Fame serves as a place where basketball legends are immortalized, and continues to act as a major contributor to tourism in the city ("History of The Naismith Memorial Basketball Hall of Fame," n.d.). The Dr. Seuss Museum pays tribute to Theodor Seuss Geisel who, born and raised in Springfield, became a global icon known as "Dr. Seuss," and greatly enriched the lives of children around the world ("Timeline," 2017).

In addition to its own rich history, the city of Springfield is experiencing tremendous improvement and advancement as well. There have been signs posted around the city asking its residents and visitors to text in ideas and feedback on how the city could improve. This move allows people to easily be involved with the community, while respecting their busy schedules. Valley Venture Mentors, a large contributor to the SIC, has also recently launched a new manufacturing accelerator program in which small, local manufacturing companies can learn how to grow their businesses, and adapt their products to the continually changing market ("Downtown Springfield TDI," 2017). The "City on the Rise," as one site dubs it, is returning back to its roots; improving in many different fields such as business, culture, and education, and working towards becoming the economic and cultural hub of western Massachusetts and the United States once again ("Hey! Check out what's good in Springfield, MA," 2015).

Stearns and Tower Square

Stearns Square originated in the 1880s as a home for Augustus Saint-Gaudens' statue *The Puritan*, according to an article discussing the Square's history written by Kristin Palpini (2016). The statue was commissioned by Springfield congressman and railroad tycoon Chester W. Chapin. Saint-Gaudens collaborated with architect Stanford White to build the park between Bridge and Worthington streets, creating a "posh gateway to downtown featuring gorgeous landscaping, a huge, bronze fountain decorated with a globe and turtles, some fancy benches, and other sculptures." *The Puritan* was moved out to Merrick Park in 1899, where it has stayed, although attempts have been made to return it to its original location. In the early 2000s, Stearns Square became the new home for the CityBlock Music Series, which hosts free concerts over the summer (Palpini, 2016). Improvements to Stearns Square have recently been proposed, and "will include a complete refurbishing of the walkway and fountain, new irrigation, improved lighting and new landscaping" (Goonan, 2016).

MassMutual's Tower Square opened in 1971, originally operating as a "center of the region's retail world," but is now "a collection of conveniences for those who work and live downtown with little if any destination shopping" (Kinney, 2011). 1.6 million square feet are

encompassed within Tower Square, 370,000 square feet are for office space, and 180,000 square feet contain the shopping and restaurant center, with a 265-room Marriott Hotel also filling Tower Square (Kinney, 2011).

The Springfield Casino

MGM Resorts International has, by undertaking the large casino project just blocks away from the SIC, ensured the creation of "an exciting and lively residential, retail, dining, and entertainment district that preserves much of downtown's most iconic architecture while rebuilding the city's hardest-hit downtown neighborhood" ("Our Vision," 2017). The most immediate effect of this project will be to generate a hub of community activity in the area, drawing in crowds looking to spend money and bolster the nightlife. Money will be pumped into the area as people head to the casino, or are drawn into one of the many restaurants.

The casino project first began in 2011 with the Expanded Gaming Act. This Act allowed for the construction of casinos in Massachusetts, breaking the state into three "regions" and allowing one casino to be built per region ("Expanded Gaming Act," n.d.). In November of 2014, Western Massachusetts decided that its casino would be built in Springfield, with the license given to MGM ("Press Releases," 2014). Work on the site began subsequently, and has continued since. Current estimates put the project's total cost at about $950 million, and is planned to open in September of 2018 (Treeger, 2016).

According to MGM Springfield's site (2014), the casino will occupy roughly 14.5 acres in the downtown area of Springfield. In addition to about 125,000 square feet of gambling space, the casino will house retail and dining space for fifteen shops and restaurants. Other facilities will include a 250-room hotel, cinema, and bowling alley. The casino intends to bring about 3,000 permanent jobs to the area and intends to "ignite an urban revival" once it opens ("Press Releases," 2014).

Springfield Union Station

The Springfield Union Station has been a landmark for nearly a century in the city of Springfield; however, it experienced a large decline in usage, and was boarded up in 1973 ("Springfield, MA (SPG)," 2016). It has not been until 2012 that the renovation project had gained enough funds—$84.5 million dollars—to go forth with the renovation to turn Union Station into a regional transportation center ("Springfield, MA (SPG)," 2016). The redevelopment of Union Station will provide an easy pathway into and out of Springfield, and within the proximity of the Innovation Center. The primary benefit of this station, being so close to the SIC, will be its ability to provide interested parties, whether they are companies looking for space or investors ready to hear pitch ideas, an easy and effective way to reach the Innovation Center. In an area where parking may be unavailable, or come at a premium cost, having the station so close-by will vastly increase the Center's outreach. Union Station will also be able to cater to the incoming casino and provide further foot-traffic, tourism, and interest in Springfield,

as the city grows dramatically. This large improvement of the welfare of the city will support what the SIC is looking to accomplish.

Innovation Center Research

Artisan's Asylum

Artisan's Asylum is a non-profit fabrication center and makerspace. Their website (n.d.) declares that their goal is to support and promote the teaching, learning, and practice of fabrication. A monthly membership is required, which includes the benefits of access to the 40,000 square-foot facility on weekends and outside regular working hours, as well as rentals of space and equipment. There is a vast selection of shared fabrication tools and equipment available for a variety of trades including robotics, woodworking, and metalsmithing. Many of their tools require certifications to use; however, Artisan's Asylum offers publicly accessible classes taught by members of the community for the purpose of certifying people to use these tools ("Artisan's Asylum," n.d.).

Artisan's Asylum also hosts events, as a calendar on their website (n.d.) displays, with a focus on encouraging a culture of fabrication. Events range from social gatherings to guest speakers, and even include the makerspace's own "battlebot" program. They also have a Cultural Exchange program with a makerspace in Chiang Mai, Thailand, a Corporate Associates program to provide mass membership discounts and other benefits to outside corporation employees, and a Grant program that can cover various fees related to the makerspace like storage space, rentals, and class fees ("Artisan's Asylum," n.d.).

Cambridge Innovation Center (CIC)

The Cambridge Innovation Center, formerly known as C3, or Cambridge Coworking Center, helps develop innovation ecosystems by acting as a hub for entrepreneurs and businesses according to its website (2017). Due to its many locations (from Boston to the Netherlands) and available space, the CIC houses over 1,000 companies. Similar to other innovation centers, the CIC focuses primarily on startups, but also houses larger companies, investors, and service providers, such as Android, HubSpot, Tokai Pharma, and GreatPoint Energy. This particular center measures success through economic impact. Economic impact is defined by how much they raise through venture capital investment and publicly disclosed exit value, along with the number of jobs added to the economy. According to third party sources, the CIC has raised over $2.5 billion, and created over 40,000 jobs (Kostelni, 2016). One of the great things about the CIC is that it provides various perks and benefits for its members, which in turn helps to convince the entrepreneurs and companies to continually be a part its center. Such perks and additions include stocked kitchens, conference rooms, Internet, printing/copying machines, phones, open environment, comfortable furniture, entertainment such as pool tables and video games, gym membership discounts, wellness initiatives, connections with many internal and external companies, and other amenities that are all included with the tenant's monthly payments. The

center also offers transportation discounts and is located near an easily accessible train station. A tenant usually pays anywhere from $425 to $1,500 per person, per month, depending on the size of the company, and tend to stay anywhere from one month to 5-10 years, although the average is about 2-3 years (“CIC - More Startups Than Anywhere Else On The Planet,” 2017).

An idea that the Cambridge Innovation Center gave us was an office sharing space or conference room, for which they use a software program called Roomzilla to assist tenants in reserving space (“CIC - More Startups Than Anywhere Else On The Planet,” 2017). This would be beneficial for internal companies to meet and plan with each other, or for them to meet with outside sponsors and clients. In order to retain tenants, and to have them want to be a part of the SIC specifically, the idea of having various perks for tenants should seriously be considered. Reviews by former and current CIC tenants are mostly all positive, expressing that the center is like a “luxury hotel for startups,” and that they “like being around here for no apparent reason” (“CIC - More Startups Than Anywhere Else On The Planet,” 2017). This innovation center would definitely be worth looking at in-person.

Greentown Labs

Greentown Labs is a non-profit incubator/accelerator near downtown Boston. It has 33,000 square feet allocated for "co-located prototyping, office and event space to serve the needs of cleantech entrepreneurs that need to build physical products while also growing their businesses," as self-described on their website (2017). The company itself has been established fairly recently, in 2011, by four Massachusetts Institute of Technology (“MIT”) graduates based on their own concerns: a need for low-cost urban prototyping & office space. The incubator has successfully nourished over 100 startup companies, with 85% of them still in operation. Furthermore, they have created over 500 jobs, and have raised over $200 million in funding. In late 2017, Greentown Labs is set to further expand, adding another 58,000 square feet of space to support up to an additional 100 startup companies, on top of what the current facilities already support. This new space will include approximately 40,000 square feet of space dedicated to prototyping labs, a total of 24 wet lab benches, and enough office space for over 400 entrepreneurs. The non-profit primarily focuses on technology and energy transformation businesses, and claims it is the "largest clean technology incubator in the US." The innovation center also has a Manufacturing Initiative, which aims to connect startup companies with local manufacturers. Its facility includes office, lab, and event space, and provides “office hours,” much like Worcester Polytechnic Institute does, for entrepreneurs to receive assistance. There are also machine shops which include essential tools such as a lathe, drill press, mill, and table saw, all of which require training and certification that can be done on-site. There is other equipment available for use, such as power supplies, oscilloscopes, and network analyzers, as well as software, such as MATLAB, provided by Greentown Labs’ sponsors (“Greentown Labs,” 2017).

Greentown Labs’ website (2017) also describes a special program they run called Greentown Launch, a six-month acceleration program for prototype-stage companies. The program assists companies in two main focuses: business and technology. On the business side, Greentown Launch offers prototype-stage companies access to mentors, workshops, and the

benefits of Greentown Labs' ecosystem. On the tech side, companies are given the tools necessary to refine any prototypes they may have, receive technical feedback, and receive help with milestone planning. The entrepreneurs also have access to the investors themselves, beyond mere access to their funds, and thus are able to maintain a continual relationship with them. Besides the electronic and machining tools mentioned, tenant businesses also have access to co-working space, shared kitchens, indoor bike storage, a shared loading dock, mailboxes, Internet, and printers. Discounts are provided for venues in its proximity, such as Brooklyn Boulders, Artisan's Asylum, Studio M Barbershop, and Fortissimo Coffee/Bakery, which enhances the physical experience of being a part of Greentown Labs ("Greentown Labs," 2017). A case study conducted by an MIT master's degree student, titled *Innovating the City: Challenges and Opportunities in Establishing Incubators and Districts in Paris and Boston*, concluded that Greentown Labs' location, especially the fact that it is situated next to makerspace Artisan's Asylum, plays a critical role in creating synergy for the entrepreneurs (Johnson, 2014). This has also created foot-traffic and networking between the companies.

Greentown Labs also has legal services available for the entrepreneurs and small companies as advertised on their website (2017), which is extremely helpful in preventing these companies from experiencing legal trouble in the future. For startup companies, intellectual property is usually of utmost importance, and hence legal advice is essential for productive growth and longevity. Another critical aspect is the ability for companies to partner with Greentown Labs, which allows them to engage with the startup companies. Partners include companies such as GE, Shell, Mathworks, Zipcar, and UPS ("Greentown Labs," 2017). A further, in-depth analysis and tour of the physical property would be beneficial.

EforAll (Entrepreneurship for All)

EforAll is an accelerator program that uses pitch contests and other local events to give entrepreneurs a chance to win cash prizes. The firm's website (n.d.) details the method by which they do this: they choose 20 ideas, give each a table at a pitch event, and then the community gives feedback on the ideas. Eight of the teams are then chosen to pitch for two and a half minutes to a panel of judges, for a chance to win one of four cash prizes. By allowing community members and leaders to act as experts, judges, and mentors, the program fosters a community and social network for entrepreneurs and businesses. The three-month program operates in mid-sized cities, and believes that helping entrepreneurs will help cities in decline. Besides the $30,000 in cash prizes, mentorship, and weekly workshops, EforAll provides free co-working space, and nine months of support after their accelerator program ends for a given startup, giving a greater chance for the entrepreneurs to flourish. In order to apply to their program, businesses must have received no more than $25,000 in prior funding, and must already be in a pilot stage, or working with beta customers. This means that the applicant must have already done significant research, and understand what they are doing and who they need to reach. Applicants are generally those who are attempting to make a positive impact in the community, and must attend meetings twice per week with other entrepreneurs in the program, while also connecting with mentors on a weekly basis ("Business Accelerator," n.d.).

SPARK Holyoke & Holyoke Soup

SPARK supports a local periodic event called Holyoke Soup. According to its page on SPARK's site (n.d.), people can partake in the event by paying a small donation—a minimum of $5—and are provided food and drinks, while budding entrepreneurs attempt to pitch their ideas to the crowd. After the entrepreneurs have all had their chance to pitch, the crowd votes for the idea they think was the best. The entrepreneur or team that receives the most votes is awarded the sum of donated money as an investment to their project. In addition to this segment of the event, prior winners also take the stage to provide the audience with an update of progress they have made on their projects since winning in the past. This event has three major goals. The first is to empower local entrepreneurs and give them the opportunity to share ideas they have without concerns of backlash. The second goal is to connect members of the community and build networks, accomplished through the social aspect of dining, and through the more implicit connections between the audience and pitching entrepreneurs. The last goal is to encourage change in the area by promoting members of the community ("The Source That Works For Entrepreneurs," n.d.).

TechSpring

TechSpring is a healthcare innovation center, launched by Baystate Health. Though similar to an incubator, it usually does not receive equity or intellectual property rights for partner projects. The center features four programs, all of which are listed on their website (n.d.):

1. Reception of feedback from healthcare professionals.
2. Development of ideas via a six-month process to assess key assumptions, healthcare environments and data, Baystate Health leadership, experts in subjects, facilities, IT resources, and at times, patients.
3. Bringing data and rent access to enterprise-grade healthcare analytics environment, or proposing an innovation project and executing it with Baystate's resources.
4. Finding assistance to see where healthcare apps would be useful.

Partners of TechSpring include innovation partners who look to develop their ideas; transformation partners who collaborate on individual projects, have long-term involvement at the executive level, and provide insight, resources, and advice for projects; and strategic partners who are industry leaders from companies such as Cerner, Dell, Premier, Medecision, and IBM/Mainline and who provide resources and support ("TechSpring - The Baystate Health Technology Innovation Center," n.d.).

The innovation center's workspace includes private conference rooms for five to fifteen people, event spaces, open area common spaces, private offices, a café and gym, desks, a full kitchen, secure storage, shower, and terraces ("TechSpring - The Baystate Health Technology

Innovation Center," n.d.). This is very similar to what the Springfield Innovation Center aims to provide, in terms of actual working space.

Venture Café Foundation

One of the Cambridge Innovation Center's greatest assets is the environment in which it is located. Both tenants and outsiders especially enjoy the Venture Café that is close by. As per its website (2017), the Venture Café Foundation is a non-profit organization that aims to accelerate innovation in the Greater Boston region. Mainly centered around cafés and foods, the company brings entrepreneurs, investors, and innovators together by hosting free, open-admission events. These social networking events, typically held on Thursdays, bring entrepreneurs in contact with more experienced supporters and other like-minded individuals at Venture Café Kendall. Other organizations also host workshops and hackathons during these Café Nights. Once a month, the Café Night is themed around startups in the field, who showcase prototypes and products. The Venture Café Foundation provides entrepreneurs 30-minute, one-on-one meetings with experts, advisors, and mentors, as well as "info tables," to help them advertise their businesses or products. Although these programs are financially free, participants are allowed three "free" visits, after which they must submit an application detailing how they will help the community, and must also have three references—either well-known community members, or café affiliates. This provides a more focused, business-oriented approach, motivating participants to be continually active. Café Nights have become so popular among the entrepreneurs and visitors alike, that the non-profit organization has expanded to offer the events at District Hall on a quarterly basis, and to Roxbury Innovation Center on a monthly basis ("Venture Café Foundation | Boston, MA," 2017).

Western Mass Economic Development Council

Western Massachusetts employs nearly 40,000 manufacturing jobs—the fourth largest employer in the state ("Western Mass EDC Manufacturing," 2008). The manufacturing industry includes fabricated metal, paper, computer, electronics, and transportation equipment ("Western Mass EDC Manufacturing," 2008). Major manufacturing companies in Western Massachusetts include Hasbro Games, Lenox, Smith and Wesson, United Plastic Group Inc., and CRRC ("Western Mass EDC Manufacturing," 2008). The Western Massachusetts Chapter of the National Tooling and Machining Association also plays a big role in helping to develop and retain the manufacturing industry in Springfield. Its aim is to "promote the precision machining industry, and provide critical business intelligence to members" ("Western Mass EDC Manufacturing," 2008).

WeWork

WeWork is a co-working space program that has offices in many locations besides the United States, ranging from Argentina to the Netherlands ("WeWork Coworking and Office Space," n.d.). WeWork aims to support the community. Despite being a relatively new company established in 2010, WeWork provides low-cost membership starting at $45 per month, as well as private office memberships (for teams of 1-100+ members) starting at $400 per month ("WeWork Coworking and Office Space," n.d.). In an annual comparison of space to cost, the offices offered seem to be around $2,500 cheaper than the average office, making the spaces very affordable and attractive for growing, low-income entrepreneurs and businesses ("WeWork Coworking and Office Space," n.d.).

In order to reel in and retain tenants as well as guests, WeWork focuses on aesthetics, such as glass windows and lively Common Spaces according to their website (n.d.). There are also many social and professional networking events to help build and maintain a strong team culture within the program. The wide range of memberships are tailored for various commitment levels, and thus the spaces are utilized effectively, while providing different opportunities and a range of flexibility for tenants. While WeWork does offer leasing for long-term commitments, in general, the memberships are on a monthly basis, allowing tenants to feel a sense of freedom and expandability. The program also offers conference rooms that are reserved online or in-app using credit, and can accommodate teams of four to fifteen people. Credit can be purchased, or is often included as bundles with monthly membership packages. Besides these credit allocations for conference rooms, membership includes Internet (Ethernet, Wi-Fi, and Private IP), an online community, furniture (including desks, chairs, and lockable filing cabinets), multi-functional printers, and relaxing amenities (ranging from ping-pong tables and meditation rooms, to pool tables and ball courts). Due to WeWork's partnerships, members in the United States are also eligible for discounted health care via Trinet, and are provided other types of discounts with partner companies as well ("WeWork Coworking and Office Space," n.d.).

WeWork provides some interesting concepts that may potentially work for the Springfield Innovation Center. In terms of networking, some type of online community for tenants of DevelopSpringfield may be a good idea, via an app or website. This way, entrepreneurs and businesses can keep up to date on what other innovation centers are working on, and can find ways to interact. Interactions in this sense could include asking questions, sharing stories, announcing product launches, RSVPing for events, promoting open job positions, or simply socializing. It will create meaningful relationships with other innovative entrepreneurs in the area, and act as a catalyst to developing Springfield. A referral program could also be implemented, if there are available spaces to rent or share. A member or business could receive a percent discount of their rent or some other cost (for, say, a year) as an incentive to pull in other companies.

Innovation District Research

Eight Placemaking Principles for Innovation Districts

There already exists a wealth of information on creating innovation districts. One such guide, created by Project for Public Spaces members Nate Storring and Meg Walker, breaks down critical aspects into eight key ideals.

The first principle is Identity, which relates to making the innovation more visible to the general public (Storring and Walker, 2016). This is typically done through actions such as giving the ground floors of innovation centers glass walls or glass storefronts, to allow the general public to see the inner workings more easily (Storring and Walker, 2016). Doing so will create a sense of openness, and people passing by will feel a sense of security (Storring and Walker, 2016). This principle is already being worked on by the SIC, as the current plans for the building include a glass storefront to allow people to see into the ground floor of the SIC itself.

The second principle is Diversity, which involves making the district a hub for more than just innovation (Storring and Walker, 2016). The primary method of achieving this is through the juxtaposition of other services such as gyms, convenience stores, and other forms of entertainment or leisure (Storring and Walker, 2016). While larger companies like Google or Facebook can subsidize such activities to create their own "fortresses," these costs end up being too great for a single innovation center to shoulder, which leads to the idea of the district as a whole shouldering this burden (Storring and Walker, 2016). This has the additional benefit of producing a diverse district of small businesses, which helps the local economy flourish (Storring and Walker, 2016). This can be achieved through collaborations with other local businesses, and by other companies also moving into nearby empty storefronts. The casino will also create a similar effect.

The third principle is Continuity, or pushing to utilize the current assets of the district over demolishing the old buildings and starting from scratch (Storring and Walker, 2016). Doing so allows the local culture to remain, providing the extra support for local businesses that would be necessary for the success of such ventures (Storring and Walker, 2016). The local communities can also provide talent to the districts in the future, so alienating them through a lack of continuity would only serve to harm the districts going forward (Storring and Walker, 2016). The SIC is being built in the old Centennial Building, and DevelopSpringfield's current intention is to largely maintain the facade of the building, other than the aforementioned ground-floor glass storefront. Furthermore, the nearby acquired buildings, currently being renovated by MassDevelopment and the Community Foundation, are operating on a similar principle of renovation over demolition.

The fourth principle is Sociability, which includes bringing people together through venues (Storring and Walker, 2016). "Networking assets" are key to innovation districts, whether these assets are connections made within one's field, or made with those across disciplines (Storring and Walker, 2016). This is most easily achieved through creating spaces that offer a wide variety of activities to promote socializing, such as coffee shops or bars (Storring and Walker, 2016). Specifically, such spaces should ideally draw groups of people in—a concept

reinforced by data collected by Project for Public Spaces (Storring and Walker, 2016). According to its data, about two thirds of unplanned socializing involved a mutual friend; thus, the effectiveness of sociability is increased by establishing locations that people want to show to their friends or co-workers (Storring and Walker, 2016). In Springfield, this can be accomplished by the renovation of public spaces near the SIC, such as Stearns Square or Duryea Way, to provide a place for people to socialize. Restaurants in the area would also provide similar results, though on a smaller scale due to the nature of restaurant dining.

The fifth principle is Proximity, emphasizing that it is not enough to simply build firms nearby (Storring and Walker, 2016). Proximity is achieved through aspects such as easily accessible and walkable streets, lively ground-level operations, and attractive public spaces (Storring and Walker, 2016). Additional data from Project for Public Spaces suggests that walkable streets provide a stronger impact compared to a car-centric locale (Storring and Walker, 2016). This will limit extra costs that would otherwise become necessary if cars are required for a simple face-to-face meeting (Storring and Walker, 2016). Improvements to Stearns Square and Duryea Way, as well as other nearby public spaces like Tower Square, would help to facilitate this proximity.

The sixth principle is Mobility—connecting the district to the city as a whole, and to the larger region (Storring and Walker, 2016). A report, conducted by the World Bank on the innovation ecosystems of New York City, indicated that social connections were more important than actual proximity; however, the report also notes that New York City has "exceptional" capabilities in regards to communication and commuting, in such a way that it implies more importance on proximity in places that are not as connected as New York is (Storring and Walker, 2016). By extension, this report also suggests that having multiple methods of transport available would also help expand the benefits of the district to the city as a whole (Storring and Walker, 2016). With more effective transportation available, firms and their employees would be able to find cheaper spaces without losing access to the benefits of the district (Storring and Walker, 2016). This focus on transportation works on all scales—local, regional, and global (Storring and Walker, 2016). We believe that Union Station's availability will assist with the Mobility aspect of Springfield's innovation district, and help to connect the city as mentioned.

The seventh principle is Flexibility, which is centered on the concept of the "Agile" model of developing software and applying it to the building of innovation districts (Storring and Walker, 2016). Project for Public Spaces seeks to apply this model to architecture, which they have specifically redubbed as "Lighter, Quicker, Cheaper" or LQC (Storring and Walker, 2016). This method focuses on functionality, cheapness, and the fact that effective solutions are those that can be accomplished nearly immediately (Storring and Walker, 2016).

The eighth and final principle in the Project for Public Spaces' guidelines is Unity, in which the government aspect is brought into the equation (Storring and Walker, 2016). The government should, ideally, move towards a system of "Place Governance" which entails having the various government departments focus on the betterment of public spaces, or "places" (Storring and Walker, 2016). This is accomplished by changing their attention from individual department goals to goals of improving public spaces (Storring and Walker, 2016). This focus shift will inevitably accomplish their individual goals as well, while also minimizing any internal

clashes that would otherwise occur (Storring and Walker, 2016). Planning should involve the "end users" of the district: workers, residents, and students (Storring and Walker, 2016). While Place Governance as a whole would entail radical changes to governance in municipalities, it can be applied in relative isolation to the improvement of public spaces (Storring and Walker, 2016). The seventh and eighth principles are the trickiest to incorporate.

The Rise of Innovation Districts: A New Geography of Innovation in America

An essay by Bruce Katz and Julie Wagner (2014) provides a look at innovation districts and 'dissects' them. Part of their analysis identifies various assets that a majority of innovation districts tend to have in varying quantities. These assets are broken down into three broadly defined categories: economic, physical, and networking assets. When these are combined with a culture willing to take risks and support small businesses, a synergy is formed that produces working innovation districts (Katz and Wagner, 2014).

Economic assets are the companies, organizations, and other groups that provide the funding necessary to fuel the various parts of the innovation ecosystem (Katz and Wagner, 2014). These can be broken down further into three sub-categories (Katz and Wagner, 2014). The innovation drivers are those whose focus is on cutting edge technologies and services (Katz and Wagner, 2014). Katz and Wagner describe incubators, accelerators, and other similar facilities as innovation cultivators - the companies or firms that support growth of new businesses (Katz and Wagner, 2014). The last sub-category, neighborhood building amenities, are the essential buildings in districts, such as grocery stores and restaurants, which help innovation districts to thrive, despite themselves not being based at all on innovation (Katz and Wagner, 2014). This is because these types of businesses are fundamental for people to live comfortably. As of now, the area which could eventually become the Springfield Innovation District unarguably has examples of the latter two sub-categories here; the SIC is unquestionably an innovation cultivator, while local restaurants and other businesses fill the role of neighborhood building amenities. Bringing in partnerships and sponsorships would also help bring in the kinds of people who can contribute to, and create, innovation drivers in the area, possibly in some of the empty storefronts which currently remain unoccupied.

Physical assets are the actual spaces within the district, whether they are owned by the city itself or by a private entity (Katz and Wagner, 2014). Katz and Wagner again break these assets down into three groups. The first group contains assets which are in the public realm, including facilities such as parks (Katz and Wagner, 2014). These are designed to encourage people to socialize, test products in public, and for the municipality to prototype improvements to the city at large, like new street lights (Katz and Wagner, 2014). The second group involves assets in the private realm, mainly consisting of buildings that stimulate innovation, like those that rent out spaces for other startup companies to use, or those that offer co-working areas (Katz and Wagner, 2014). The final group of physical assets are those that "knit the district together;" these can range from renovations that remove fences or other barriers, to implementing bike paths or sidewalks (Katz and Wagner, 2014). This grouping also includes assets that connect the district to the city at large, such as infrastructure improvements (Katz and Wagner, 2014).

Networking assets are less tangible than the other two groupings, as they relate more to relationships between members of the innovation district on all scales—from people, to groups, to entire institutions (Katz and Wagner, 2014). The essay goes into depth on networks, and breaks down connections into two kinds of ties: strong ties and weak ties (Katz and Wagner, 2014). Both kinds of ties also came up in the placemaking principles created by Project for Public Spaces. Strong ties are those that exist within a given, specific field, while weak ties span across multiple disciplines (Katz and Wagner, 2014). Networking assets that are able to build strong ties include industry conferences and workshops, along with programs or buildings dedicated to a given trade (Katz and Wagner, 2014). Weak ties can be built by using assets such as networking breakfasts or innovation centers—places where entrepreneurs from different disciplines can intermingle with each other (Katz and Wagner, 2014). A combination of both kinds of ties is key to the success of innovation districts (Katz and Wagner, 2014).

Katz and Wagner go on in their essay to loosely define three general models of innovation districts. The first is the "Anchor Plus," which is found most commonly in downtowns or mid-towns of larger cities (Katz and Wagner, 2014). This model is identified by the base of interconnected firms and spinoffs that are all in some way involved in innovation—Kendall Square in Cambridge can be looked to as an example of this model (Katz and Wagner, 2014). The second model is the "re-imagined urban areas" model, typically found at historic waterfronts (Katz and Wagner, 2014). Once major industrial or warehouse districts, these areas have been transformed into innovation districts to help bolster their local economies (Katz and Wagner, 2014). A proximity to the downtown area, historic buildings, and access to public transit all partially fuel this transformation; all of these are prevalent in the South Boston waterfront district (Katz and Wagner, 2014). The third model Katz and Wagner identify is the "urbanized science park," located in suburban or exurban areas (Katz and Wagner, 2014). These areas have gone from comparative isolation, to being urbanized centers for innovation and new attractions like restaurants (Katz and Wagner, 2014). The strongest example of this model, per Katz and Wagner, is the Research Triangle Park in North Carolina (Katz and Wagner, 2014). The Springfield Innovation District is best described as a re-imagined urban area model of innovation district.

Katz and Wagner end their essay with five distinct pieces of advice sourced from leaders of successful innovation districts:

1. Innovation districts should build a network of leaders from important businesses and industries, with the intent to have them cooperate in leading the district (Katz and Wagner, 2014). Some districts in particular look to the "Triple Helix" model of governance in this regard, which involves interactions between researchers, the local government, and key industry members (Katz and Wagner, 2014).

2. Districts should also ensure that they have a vision for the future, particularly in terms of growing the district (Katz and Wagner, 2014). By knowing how they want the district to develop socially, economically, and physically, members of a district can make full use of their strengths (Katz and Wagner, 2014).

3. The district will need to pursue both talent and technology, as skilled workers play a key role in innovation (Katz and Wagner, 2014). To accomplish this, they would need to have strategies and equipment in place to attract, retain, and grow their pool of talented workers (Katz and Wagner, 2014).

4. A district would also need to promote growth that does not exclude anyone (Katz and Wagner, 2014). Some districts are formed with the secondary intention of helping restore nearby "distressed" neighborhoods and creating opportunities for lower-income residents (Katz and Wagner, 2014). A common method of doing this is to have programs in place that focus on teaching workers the skills they would need to either be a part of the innovation centers directly, or to partake in jobs that only relate to the district due to their location (Katz and Wagner, 2014).

5. Lastly, districts should make financial capital more available in order to support startups in a variety of ways (Katz and Wagner, 2014). These can range from supporting research, to funding, to enhancing local real estate or infrastructure (Katz and Wagner, 2014).

All of these pieces of advice are sourced from a variety of other innovation districts, such as those found in Barcelona, Philadelphia, and Cambridge (Katz and Wagner, 2014).

Other Research

Marketing Research

When considering designs for the website, mural, and logo, be sure to consider the psychological aspects of advertising. According to Part I of *Psychology of Advertising a New Century* (2002), directed by Phil Rutsohn, consumers can be broken down into eight basic categories:

1. Up and Comers—People in this group are often single, or married without children. They tend to be active and forward-thinking.

2. Aspiring Achievers—While people in this group are similar to Up and Comers, Aspiring Achievers instead use money as a metric for their success.

3. Realists—Realists understand their financial limitations, and attempt to balance their desires with their responsibilities.

4. New Traditionalists—This group focuses on the environment and their surrounding community, and aims to teach the right values to their children.

5. Family Centers—As the name implies, Family Centers mainly focus on their families, and are often not interested in other issues.

6. Individualists—These people spend time climbing up in their careers, and tend to be technology-oriented.

7. Renaissance Masters—Renaissance Masters are mature, financially stable, and interested more in personal development.

8. Maintainers—Though also mature, Maintainers are limited in income and tend to be more mellow, using their past experiences to determine future decisions.

Rutsohn explains, "a good advertisement should be original, dramatic, and create an awareness in consumers, by penetrating their emotions, feelings, and decision processes." As basic as this sounds, many advertisements tend to miss their target consumers because they are unable to properly express these fundamental values. Most importantly, a consumer must be able to properly process what he or she is looking at. This can be accomplished by keeping the message simple, as too much information deters consumers, or can make the message difficult to decipher. Ensure the use of successful imagery, such as people laughing, bold background color, and legible text that complements the pictures. It is essential to keep in mind that entrepreneurs are likely to be Aspiring Achievers, New Traditionalists, Up and Comers, or Individualists, and so marketing strategies should be catered to these groups, emphasizing the Innovation Center to be a financial and personal asset, while at the same time being a catalyst for developing a sense of culture and community in Springfield. This will forge feelings of loyalty to the SIC and surrounding environment (a High Relationship Quality), that will help convince startup businesses to stay in Springfield after maturing (Rutsohn, 2002).

The Effects of Shopping Motivations and Product Costs on Purchasing Habits of Young Adults: A Look into the Clothing Industry, researched by Worcester Polytechnic Institute students in the MKT3650 class, outlines prevalent marketing concept of Consumer Behavior. The information and overall concepts from this can also be derived from a textbook by authors Babin and Harris (2016). Consumer Behavior, defined as the "study of the processes consumers use to select, secure, use, and dispose of the products and services that satisfy their needs," includes three main concepts: Need, Want, and Reaction. A Need refers to a consumer's realization of something new, that becomes essential for him or her. This eventually leads to a Want—the desire to fulfill the Need. Because of these, consumers have a Reaction, and are tempted to evaluate a purchasing decision (Babin & Harris, 2016).

By creating appropriate marketing strategies for the Springfield Innovation Center, we will either be able to establish a Need for entrepreneurs who may not yet fully comprehend what they require, or simply fill their needs by advertising what they may already want. This will then cause the Reaction of wanting to be a part of the SIC and surrounding community. Thus, we had investigated what other innovation centers offer to see what the SIC may be missing. According to the study, the Consumer Value Framework ("CVF") also "illustrates the factors of relationship quality, service, internal/external influences that shape consumption-related behaviors, and, as a result, determine the value associated with consumption" (Babin & Harris, 2016). While marketing is initially an important task to make consumers aware of the SIC and its benefits, Service will become a vital, later-stage factor. By creating an efficient system to solve client and tenant complaints or other problems that may arise, DevelopSpringfield will be able to retain a

positive image for themselves by their consumers, and ultimately keep the SIC and other projects running smoothly. If response time to inquiries becomes slow, or a tenant noise complaint is not solved quickly, for example, the specific negative perceptions will be tied to the SIC, and will create an overall negative experience for these consumers.